# A4.6Ci

## MultiZone Audio Preamplifier

**Four-Source, Six-Zone Preamplifier**

**NILES**®

**BLENDING TECHNOLOGY AND ARCHITECTURE**®

# Congratulations!

Thank you for purchasing the Niles A4.6Ci MultiZone Preamplifier, one of the most flexible and convenient audio components ever offered. The A4.6Ci, like all Niles products, is built to the highest standards of quality and reliability. With proper installation and operation, you'll enjoy years of trouble-free use.

Niles manufactures the industry's most complete line of custom installation components and accessories for audio/video systems. For a free full-line catalog, write:

Niles, Catalog Request, P.O. Box 160818, Miami, Florida 33116-0818

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# INTRODUCTION

Niles Audio has recognized the need for a simple-to-use, cost-effective, and flexible multi-zone system that can provide years of listening pleasure to music-lovers. Our engineering and product-development departments have joined forces to produce an innovative multi-zone preamplifier that incorporates six separate zones and connections for four audio source components.

The A4.6Ci MultiZone Preamplifier is the multi-zone solution you have been asking for. It allows you to combine Keypad Modules with Infrared Sensors and Hand-Held Remotes for total control of your Home Entertainment System, providing "one-touch" system-wide control.

Now everyone in the household can be happy: One person can listen to the CD player in a bedroom, while another simultaneously listens to the radio by the pool. At the same time a third person can listen to DSS music in the den. In addition, the A4.6Ci's source-component IR control is custom-programmable to provide intuitive operation for a wide range of source components.

**The Niles A4.6Ci MultiZone Preamplifier**

**Multi-zone/Multi-source**
The A4.6Ci MultiZone Preamplifier incorporates matrix preamplifier technology to provide as many as four source components to six listening zones simultaneously. Finally, Dad can relax to the sound of his favorite music in the den while the kids are listening to their favorite music by the pool.

**Central Intelligence**
The design approach of the A4.6Ci MultiZone Preamplifier is a radical departure from that of traditional programmable keypad-controlled multi-zone systems. Instead of redundantly programming each of the individual keypads with IR commands, all IR commands are programmed and stored in the A4.6Ci. The Solo™ and Select™ Master Keypad Modules, Numeric™ and Transport™ Accessory Keypad Modules, and Niles IR Sensors connect to the A4.6Ci for complete system control.

Total system cost can be dramatically reduced due to shorter programming time and the low cost of the modular keypads located in each zone.

**Quick and Easy Programming with PC Archiving**
Manual programming is quick and easy, with push buttons and LED visual prompts that lead you step by step through the programming process. Additionally, with Niles Ci Archiving software, all system programming can be archived on your PC for back-up and for use with pre-designed systems.

**One-Touch Operation Including System and Component Power Synchronization**
One touch of a Master Key on an IntelliPad® Ci Solo™ or Select™ Master Keypad Module tells the A4.6Ci Preamplifier to perform an intelligent sequence of IR commands for complete control of your distributed A/V system.

Sync Inputs provided by the A4.6Ci sense wether the connected source components are ON or OFF. Power commands for these source components are issued only if the source components are actually OFF, turning them on correctly, every time. The proper input for the source component is then selected and a programmed sequence of IR commands is issued (i.e., play or favorite station).

A complex mix of various brand audio/video components can be operated with ease and simplicity when using the A4.6Ci.

**Elegant and Intuitive User Interfaces**
*The Solo™ Master Keypad Module* - The Solo Master Keypad Module is an elegant, single-gang, complete-control solution for the A4.6Ci. Four custom-labeled Master Keys provide complete system activation, source selection, and source play commands, while a complete set of cursor keys provides basic source transport and menu control.

*The Select™ Master Keypad Module* - The Select Master Keypad Module is an advanced control solution for the A4.6Ci. Eight custom-labeled Master Keys provide complete system activation, source selection, and source play/customized music selections.

*The Numeric™ Accessory Keypad Module* - The Numeric Accessory Keypad Module can be included along with the Solo and Select Master Keypad Module in any or all zones. It provides direct access to discs, tracks, stations, and channels when operating DSS receivers, and CD/DVD changers.

*The Transport™ Accessory Keypad Module* - The Transport™ Accessory Keypad Module can be included along with the Solo™ and Select™ Master Keypad Module in any or all zones. It provides basic transport functions and menu cursor keys for detailed control of source components.

# FEATURES AND BENEFITS

*The R-4 Remote* - The R-4 Remote provides system control via an ergonomic hand-held IR remote control. Zones that have been installed with Niles IR Sensors can take advantage of the R-4 Remote, providing system control from anywhere in the room.

### System-Wide Operation
The A4.6Ci MultiZone Preamplifier incorporates system-wide control to activate all zones to a particular source component. An ALL OFF command is also included for complete system shutdown from any zone in the system.

### Paging Input for Telephone Systems
A paging input is provided for telephone systems equipped with a paging output. Audio sensing is utilized to detect the paging signal. Source components currently playing in the various zones are interrupted, enabling the paging signal to play through. If a zone is off during a page, it turns on, enabling the paging signal to play through. Front-panel switches are provided to disable this paging feature in any zones where it is not required.

### 12V Control Output
A control-output connector provides a constant 12V DC trigger signal the moment any zone is activated. This signal can be interfaced to voltage-triggered AC power strips (i.e., Niles AC-3) for the automation of source components that can only be activated via switched AC outlets.

### Expandable for Larger Multi Zone Systems
Up to four A4.6Ci's can be combined in a single system, providing 24 zones. Source component audio signals are shared between preamplifiers, utilizing the buffered cascade audio outputs provided for each source component.

### Multiple Rooms in a Single Zone
A single zone of an A4.6Ci can be expanded to accommodate as many as six individual rooms (master-bedroom suites, outdoor areas, etc.). A Niles Ci Silencer Muting Volume Control (White - FG00773, Almond - FG00774, Bone – FG00776) located in each room/area in the zone along with a Master Keypad Module (Solo or Select) provides individual ON/OFF and volume adjustment. A Niles Ci Expander (FG00853) connects all keypads to a single zone of the A4.6Ci preamplifier.  As many as 36 rooms can be connected to a single A4.6Ci preamplifier using six Ci expanders and 36 Ci silencer volume controls.

### Program Memory Protection
The A4.6Ci MultiZone Preamplifier utilizes non-volatile memory for storage of its programming. This safeguards against accidental loss of the programming for the entire life of the product.

LED Zone ON/OFF Indicator

Zone Label Slots

Removable Programming Cover

A4.6Ci  4 SOURCE/6 ZONE AUDIO PREAMPLIFIER
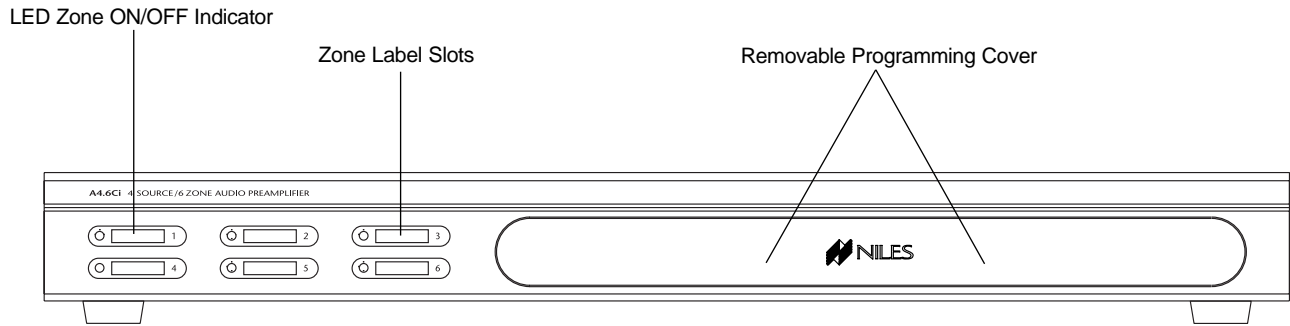
**Figure 2** A4.6Ci Front Panel with Programming Cover

Programming Controls and Indicators

Connection for Programming Keypads

A4.6Ci  4 SOURCE/6 ZONE AUDIO PREAMPLIFIER

Zone All On/Page Enable Switches

Sensor for Capturing IR Commands

DB-9 Computer Interface
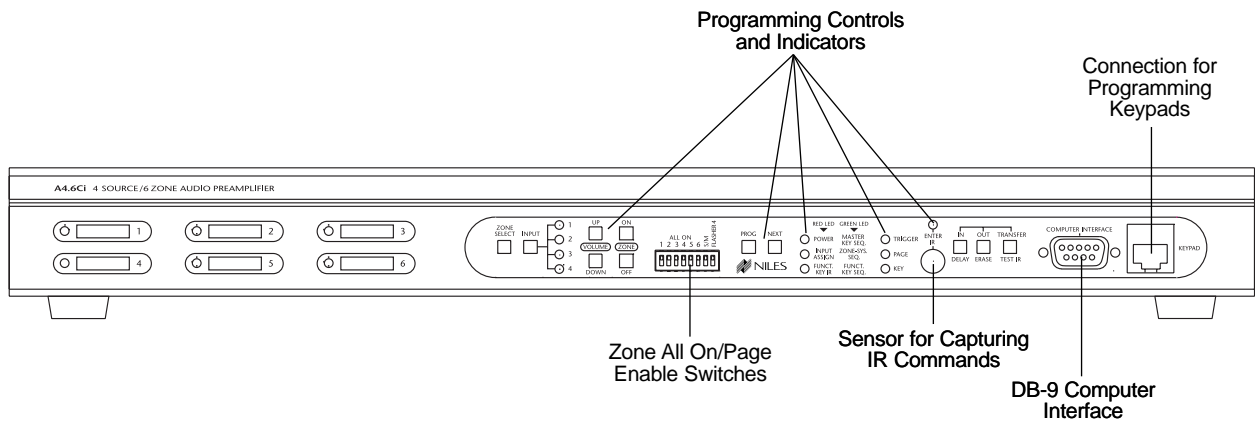
**Figure 3** A4.6Ci Front Panel with Programming Cover Removed

System Expansion

Zone Audio Outputs

Paging Input

Sync Inputs

Flasher Outputs

Keypad Inputs

Audio Inputs with Buffered Cascade Outputs

DB25 Zone Audio Output

IR Input

12V Control Output

16V DC Power Input

**Figure 4** A4.6Ci Rear Panel

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**LED Zone ON/OFF Indicators**
Provides individual ON/OFF indication for each zone.

**Zone Label Slots**
Coined slots for placing included room labels, providing zone identification.

**Removable Programming Cover**
Conceals installer-programming controls.

**Programming Controls and Indicators**
Push buttons and LED prompts for system and IR programming.

**Zone ALL ON/PAGE Enable Switches**
Individual DIP switches to enable or disable system-wide All ON commands and the paging feature for particular zones.

**Sensor for IR Capture**
IR sensor for capturing IR commands for control of the connected source components.

**DB-9 Computer Interface**
PC connection enabling program configuration back-up/downloading.

**RJ-45 Connection for Programming Keypad**
RJ-45 connection used for Master and Accessory Keypad Modules providing manual system programming.

**Zone Audio Outputs**
Six pairs of stereo RCA jacks provide output connections for the external amplifier.

**Paging Input**
A mono RCA input for a paging signal from a telephone system.

**Flasher Outputs**
Three 3.5mm jacks provide an output connection for IRC-2P Micro Flashers, one for each connected source component. A fourth is designed for the IRC-1P Flood Flasher.

**Keypad Inputs**
Six female RJ-45 jacks are used for the connection of the IntelliPad Ci Master Keypad Modules.

**Audio Inputs with Buffered Cascade Output**
Four pairs of stereo RCA jacks provide input connections for source components. Each input has a respective buffered cascade output for distributing audio signals for expanded systems.

**DB25 Zone Output**
A DB-25 Output Connector provides six zoned stereo output signals using a single cable for connection to Niles Multi-Channel Amplifiers equipped with a DB-25 Input Connector.

**IR Input**
A single 3.5mm jack provides an input connection for IR commands sent from a Home Theater. These IR commands are used for control of source equipment shared with an A4.6Ci.
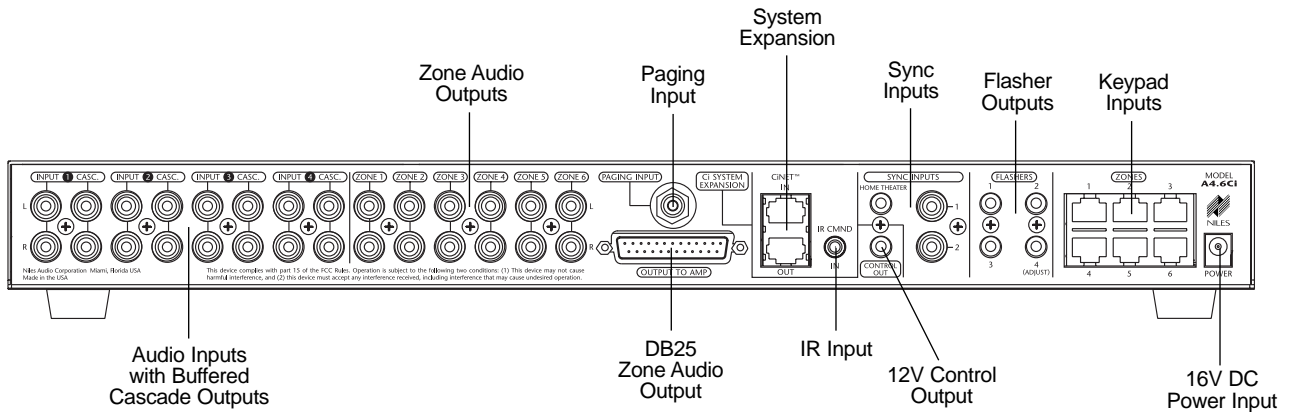
**12V Control Output**
A single 3.5mm jack provides a 12V DC trigger signal for use with voltage-triggered AC power strips (i.e., Niles AC-3) to control source components requiring activation via a switched AC outlet.

**Sync Inputs**
Video and voltage sensing inputs 1 and 2 are for detecting when a source component is on/off for reliable system activation. The HT Sync Input senses voltage, determining the on/off status of a Home Theater that shares source components with the A4.6Ci.

**16V DC Power Input**
Power connection for use with included AC-to-DC in-line power adapter.

**IntelliPad Ci Keypad Modules**
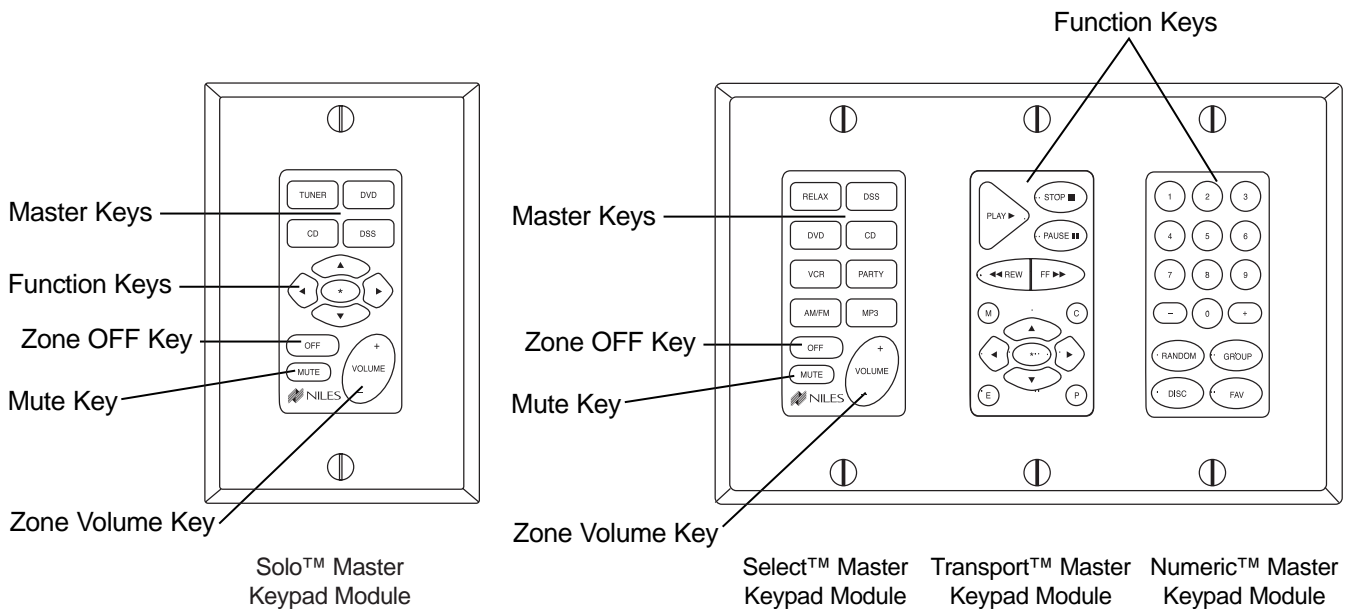


**Figure 5**

**Master Keys**
A quick tap of any of these keys turns on the zone and selects a source component. Pressing and holding these buttons for longer than three seconds turns on all enabled zones. Also, all zones are selected to the same source component.

**Zone OFF Key**
A quick tap of this Key turns your specific ZONE OFF. Pressing and holding this button for longer than three seconds causes ALL ZONES to turn OFF.

**Volume Keys**
A continuous press of these buttons raises or lowers the volume in your specific ZONE. Pressing these buttons also restores sound in a muted zone.

**Zone Mute Key**
A quick tap of this button mutes the sound in a ZONE. A quick tap of this button restores sound in a muted zone.

**Function Keys**
Pressing these keys issues the individual IR commands programmed for control of the connected source components.

**R-4 REMOTE**



Zone OFF Button

Zone Volume Buttons

Function Buttons

Zone Mute Button
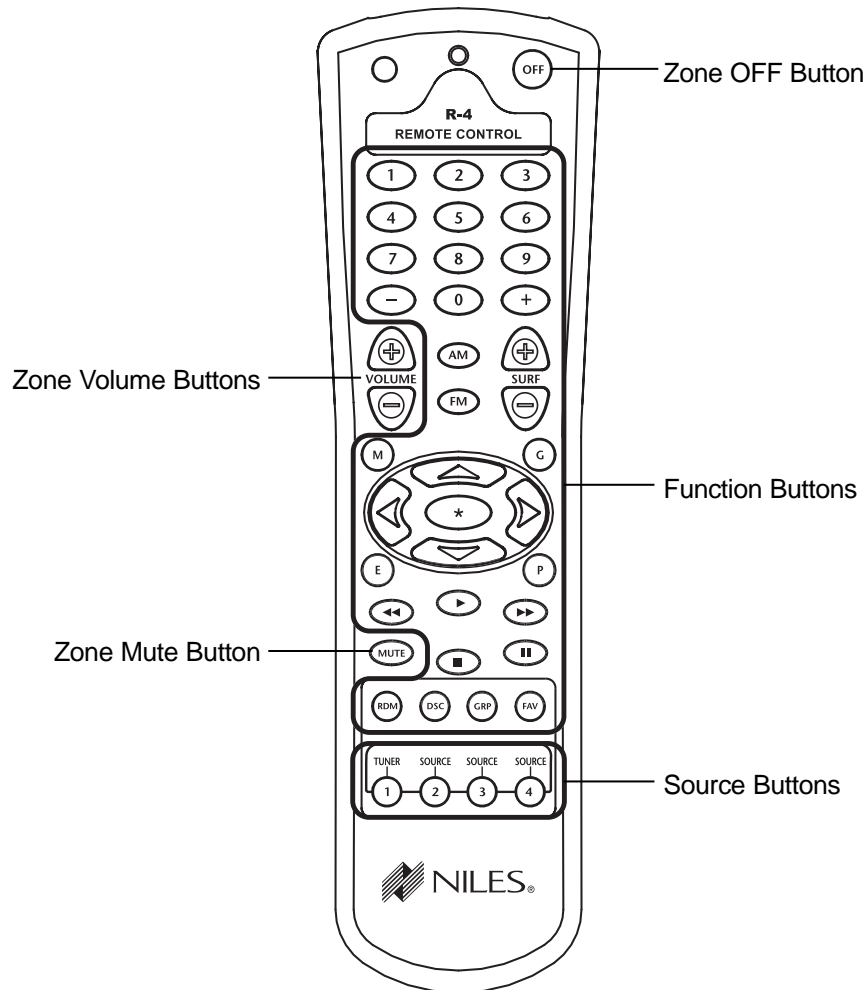
Source Buttons

**Figure 6**

**Source Buttons**
A quick tap of any of these buttons turns on the zone and selects a source component. Pressing and holding these buttons for longer than three seconds turns on causes all enabled zones. Also, all zones are selected to the same source component.

**Zone OFF Button**
A quick tap of this button turns your specific zone off. Pressing and holding this button for longer than three seconds causes all zones to turn off.

**Function Buttons**
Pressing these buttons issues the individual IR commands programmed for control of the connected source components.

**Zone Volume Buttons**
A continuous press of these buttons raises or lowers the volume in your specific zone. Pressing these buttons also restores sound in a muted zone.

**Zone Mute Button**
A quick tap of this button mutes the sound in a zone. A quick tap of this button restores sound in a muted zone.

## CONFIGURATION 1 - SIX ZONES
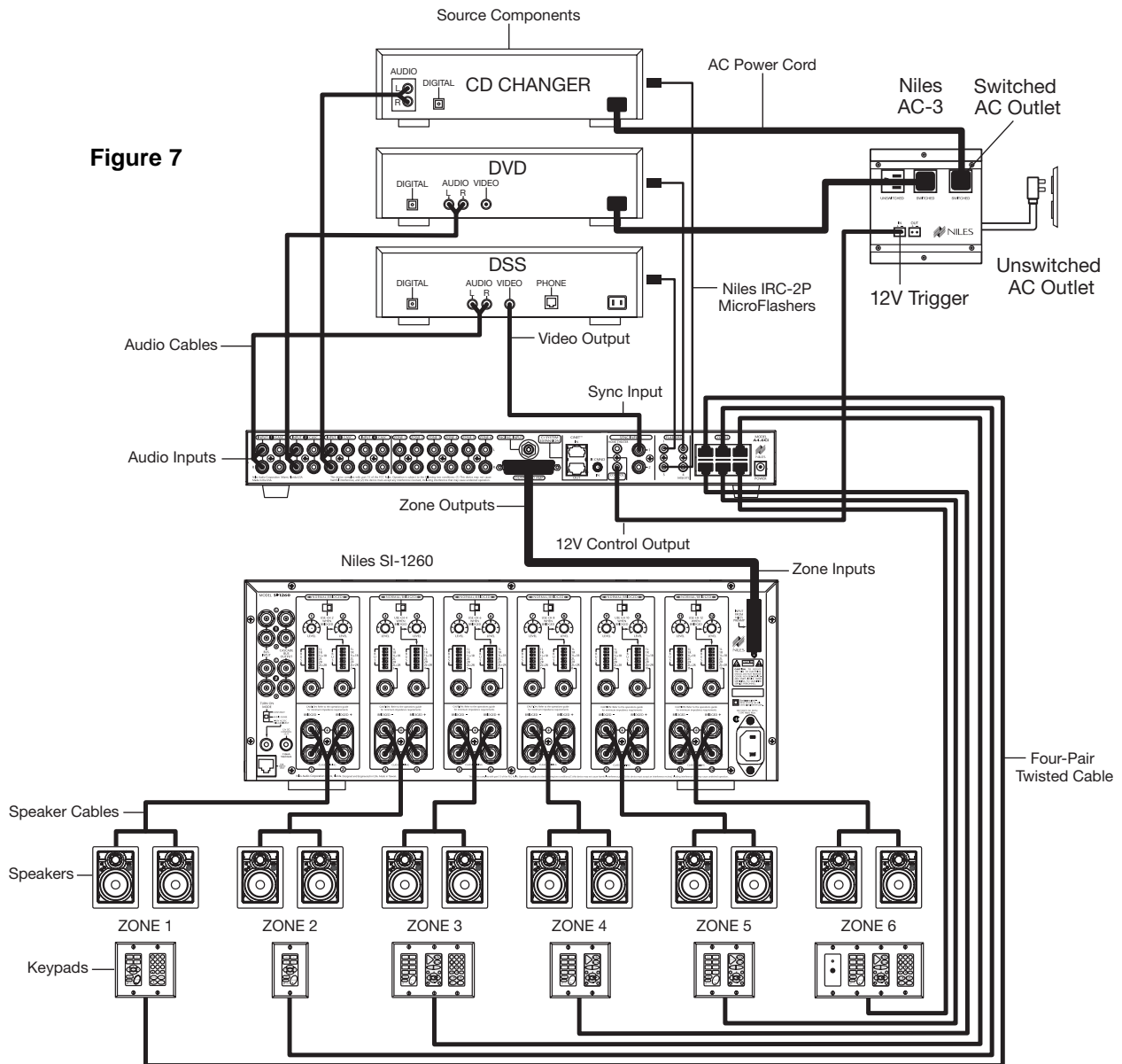


**Figure 7**

This is the simplest of the A4.6Ci configurations (see Figure 7). It depicts one Niles A4.6Ci MultiZone Preamplifier installed to provide sound to six listening zones.

Each zone consists of one room with one pair of speakers. One Solo™ Master Keypad Module **or** one Select™ Master Keypad Module is included in each zone for user control. Numeric™ Accessory Keypad Modules and/or Transport™ Accessory Keypad Modules and IR Sensors are added to specific zones as options.

**Source Components**
The A4.6Ci has RCA audio inputs for connecting four external source components for selection by each of the six zones.

With this configuration, a user in one zone can listen to one source component while another user in a different zone listens to a different source component (i.e., the CD can be selected in Zone 1 while the tuner is selected in Zone 2). Additionally, each of the six zones can be set to an individual volume level. If more than one zone chooses the same source component, IR control of that source component is shared between the zones.

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# SYSTEM CONFIGURATIONS

**Keypads and IR Sensors**

Keypads and IR sensors enable the user to control the Niles A4.6Ci MultiZone Preamplifier and its connected source components. The source components' IR commands are programmed into the Niles A4.6Ci MultiZone Preamplifier. These commands are then triggered when the user presses a keypad button or issues a Niles IR command to an IR sensor.

Each zone on the A4.6Ci has a corresponding RJ-45 keypad connector that is used to connect one Solo™ or Select™ Master Keypad Module. Each Master Keypad Module can be mated with one optional Numeric™ or Transport™ Accessory Keypad Module using an included jumper cable (see Connections). The Solo™ or Select™ Master Keypad Modules connect to the A4.6Ci with a "home run" of four-pair twisted cable, terminated with RJ-45 connectors.

An IR Sensor can be included in any zone and connects directly to the Solo™ or Select™ Master Keypad Module (see the Connections section of this manual for more details). A three-wire to RJ-45 adapter is available from Niles (see Accessories) for IR Sensors installed with two-conductor shielded cable rather than four-pair twisted cable.

Adding an IR Sensor enables the Niles R-4 Accessory hand-held IR remote, or a learning remote control programmed with Niles R-4 IR commands, to control the A4.6Ci and the connected source components. In addition, a source component's actual IR commands (i.e., provided by the component's original remote control or a learning remote control programmed with these IR commands) can be used with the IR sensor to control the source components.

**Important Note:** The A4.6Ci does not provide individual operation of identical source components when using a source component's factory remote through an IR Sensor (see Identical Source Components on page 35 for more details).

**Source-Component Automation**

There are two methods of controlling the power ON/OFF of the source components.

1. **Synchronized IR** - In Figure 4, the DSS receiver's power ON/OFF is synchronized via a video signal connected to the A4.6Ci. When the Master Key/Source Button for the DSS is pressed, the A4.6Ci checks for a video signal at the Sync Input corresponding to the DSS. **The A4.6Ci issues the power command to turn the DSS ON only when no video signal is present and the DSS is OFF.**

When the Off Key/Button is pressed in a zone, the A4.6Ci checks to see if any other zones are on (including the Home Theater zone sharing sources). The power command for turning the DSS OFF is issued only if that zone is the last zone turning OFF in entire system and a video signal is present at the Sync Input corresponding to the DSS.

**Important Note:** RCA Sync Inputs also can detect 12V for use with Niles external sensing devices, (i.e., the LS-1 Light Sensor and the APC-2 Current Sensing Device). See Source Power Synchronization on page 41 for more information.

2. **Latching Power** - In Figure 4, AC power to the DVD and CD changer is turned on and off via the switched AC outlets of a Niles AC-3. The AC-3 is activated by the 12V control output of the A4.6Ci when any one of the six zones is ON (including the Home Theater Zone sharing sources).

Each Master Key on the Solo™ and Select™ Master Keypad Modules is programmable with a sequence of IR commands for their respective source component. Commands included in the sequence are typically the Play or Channel commands to start a source playing or to select a particular music or radio station after the source has been selected.

**Flasher Outputs**

Niles IRC-2P MicroFlashers™ connect to the numbered flasher outputs on the rear panel of the Niles A4.6Ci MultiZone Preamplifier. **Flashers send IR commands to the individual source components for control.** An IRC-1P Flooding Flasher can be connected to Flasher #4 to control more than one source component.

### CONFIGURATION 2 – ADDING ZONES USING MULTIPLE A4.6Ci's

More than one A4.6Ci MultiZone Preamplifier can be used if the system requires more than six zones. A maximum of four A4.6Ci's (providing up to 24 zones) can be combined to create a larger multi-zone/multi-source system. One A4.6Ci is designated as the Master and the others as Slaves (see Installation Settings on page 65 for more details).
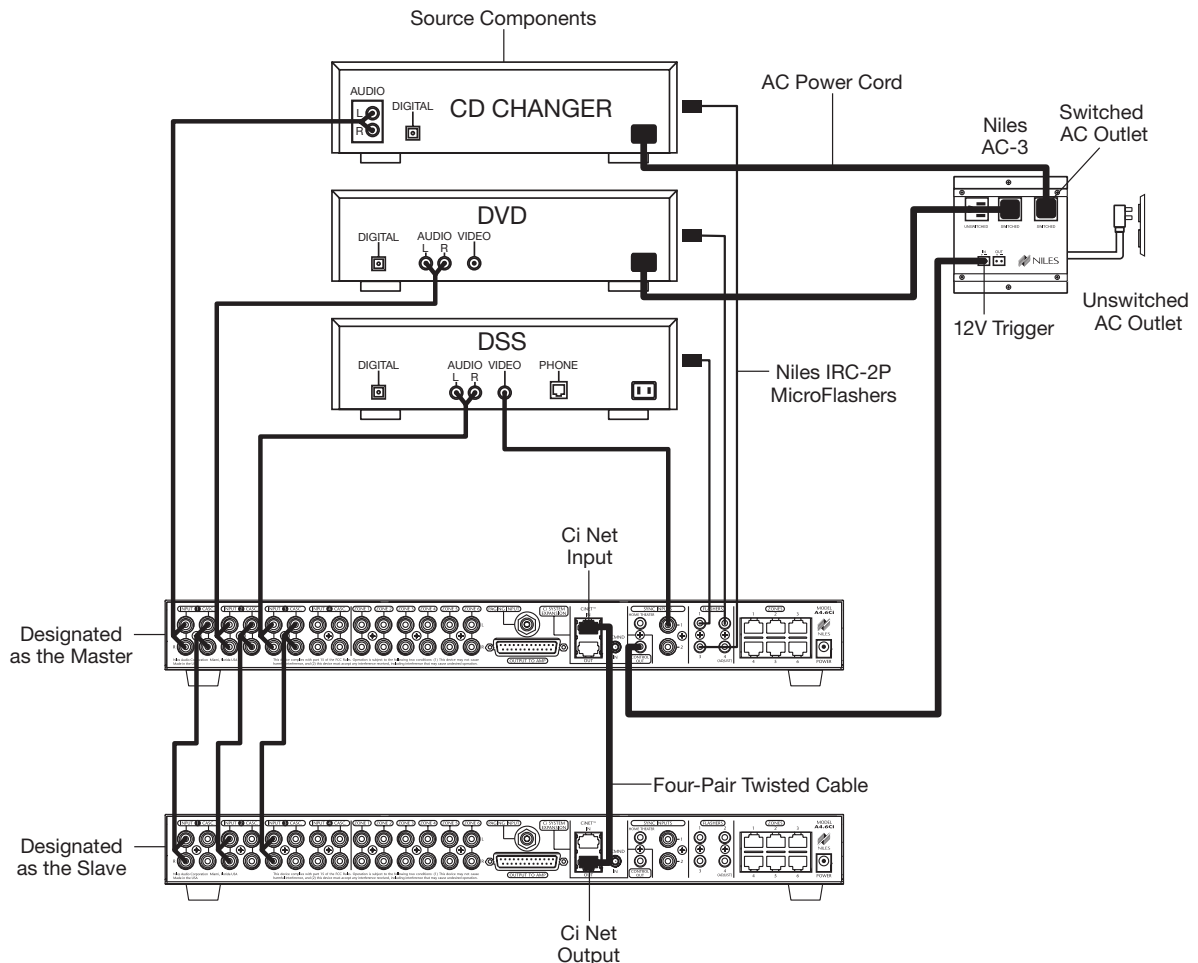


**Figure 8**

In Figure 8, a four-pair twisted cable connecting the CiNet system expansion ports of the two A4.6Ci's facilitates communication between the two. This communication enables all zones, provided by both A4.6Ci's, to obtain control of the shared source components (which are always connected to the Master). Also, system-wide commands can be issued from any zone (i.e., All Zones ON/OFF).

### Sharing Source Components with Multiple A4.6Ci's

The Niles A4.6Ci MultiZone Preamplifiers share the audio signal from the source components via the buffered cascade audio outputs provided, one for each of the four audio inputs.

Source-component control is accomplished via the programming in the Master A4.6Ci. All Slave A4.6Ci's in the system are left unprogrammed **except** for Zone On/Off Sequences and the required function key IR programming to create these sequences.

All Flasher and Sync Input connections for the shared source components are made to the Master A4.6Ci. Keypad/Source Button commands and zone On/Off status are communicated to the Master A4.6Ci using the CiNet system expansion in/out connections, providing coordinated control of all source components.

# SYSTEM CONFIGURATIONS

### CONFIGURATION 3 – INTEGRATING AN IR-CONTROLLED HOME THEATER

An IR-controlled Home Theater receiver/processor can be integrated to share source components in a system with a Master A4.6Ci.



**Figure 9**

### Distributing Audio Signals
Audio signals for the shared source components are connected to both the A4.6Ci and the Home Theater receiver using the buffered cascade audio outputs (Figure 9).

### Shared Source Component Control
The DATA output from the Home Theater IR repeater (the IRP-2+ in Figure 9) is connected to the IR Input of the Master A4.6Ci. The Home Theater IR Remote Control is now able to control the shared source components.

A 12V Sync signal is provided from the Home Theater to the Home Theater Sync Input to provide the A4.6Ci with the On/Off status of the Home Theater. This status enables the A4.6Ci to provide coordinated control of the source component's power On/Off.

**Important Note:** When issuing the source component's actual IR commands from the Home Theater Remote Control, all IR commands are passed through to all source-component flasher outputs. Identical brand and model source components cannot be operated individually using these commands. (For more information on controlling identical brand and model source components, refer to the Operation Overview on page 28.)

### CONFIGURATION 4 – INTEGRATING A HOME THEATER USING AN INTELLICONTROL

A Home Theater system controlled by a Niles IntelliControl® can be integrated to share source components in a system with the A4.6Ci.
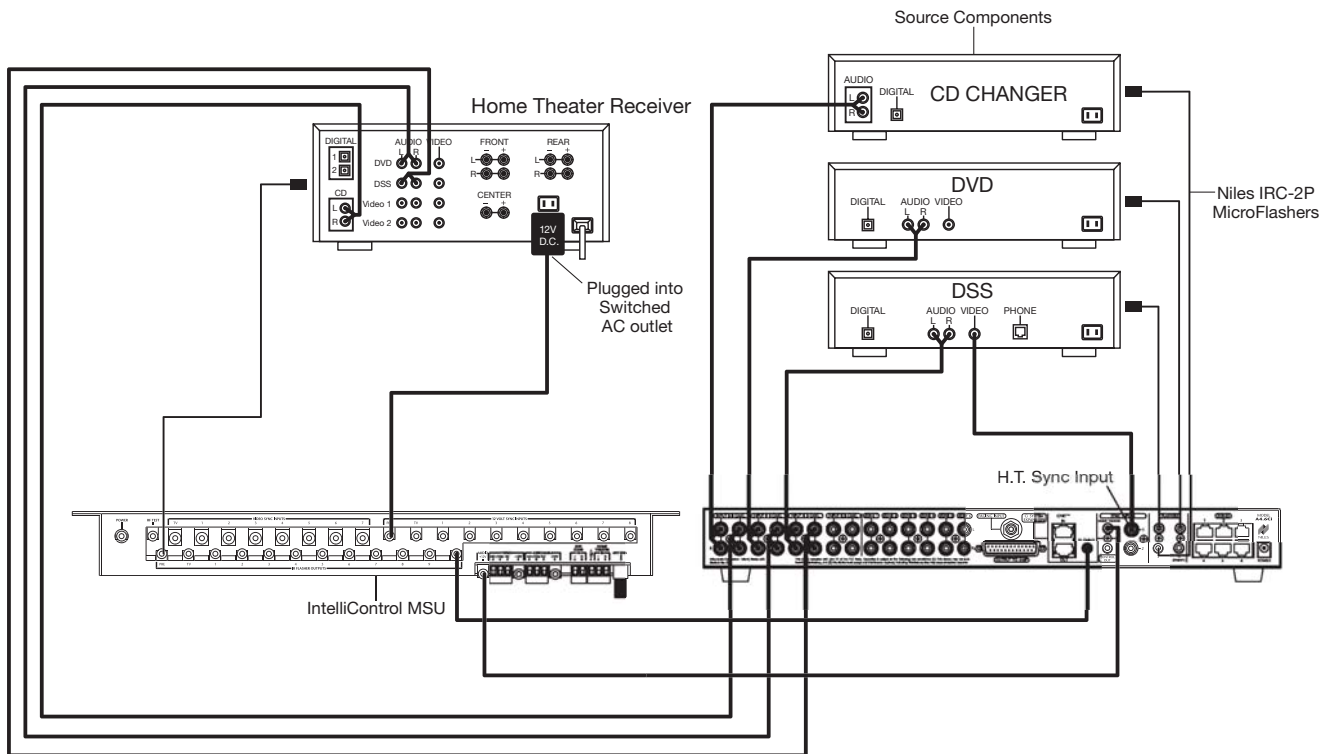


**Figure 10**

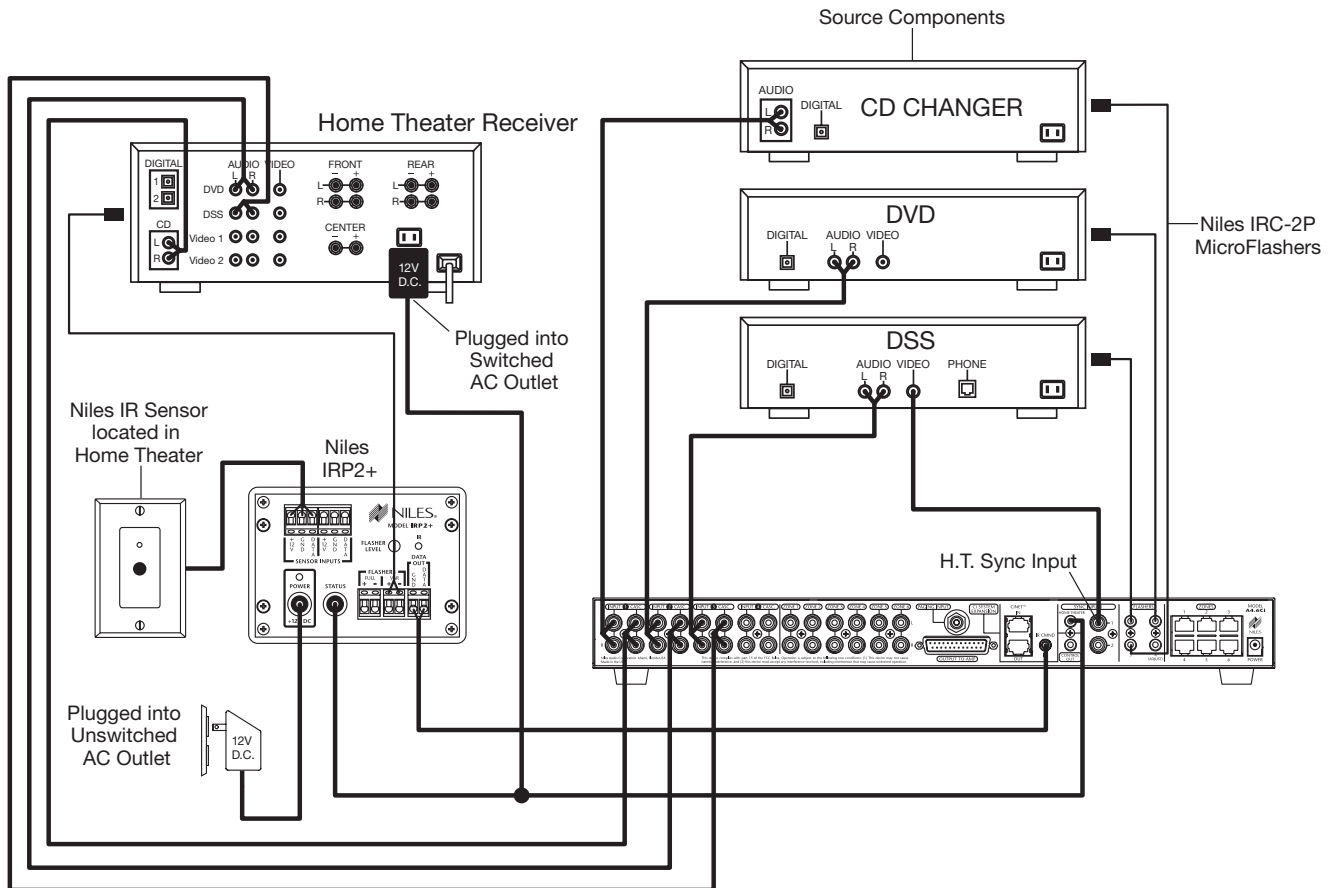### Distributing Audio Signals

Audio signals for the shared source components are connected to both the A4.6Ci and the Home Theater receiver using the buffered cascade audio outputs (Figure 10).

### Shared Source Component Control

The FLASHER output from the IntelliControl (Figure 10) is connected to the IR input of the A4.6Ci. The IntelliControl, programmed with Niles Remote IR commands, is now able to automate and control the shared source components. Niles IR commands are taught to the IntelliControl using the A4.6Ci and an attached flasher or the R-4 Remote itself (see Programming Overview for more details on page 45).

A 12V Sync signal is provided from the IntelliControl to the Home Theater Sync Input to provide the A4.6Ci with the On/Off status of the Home Theater. This status enables the A4.6Ci to provide coordinated control of the source component's power On/Off.

**Important Note:** When issuing the shared source components' actual IR commands from the Home Theater Remote Control, **all** IR commands are passed through to **all** shared source component flasher outputs. Identical brand and model source components cannot be operated individually using these commands. (For more information on controlling identical brand and model shared source components, refer to the Operation Overview on page 28.)

**CONFIGURATION 5 – MULTIPLE MASTER KEYPAD MODULES IN A ZONE**

The single zone of a Niles A4.6Ci MultiZone Preamplifier can be expanded to contain multiple Solo™ and Select™ Master Keypad Modules, providing control from many locations within the zone. A Niles IntelliPad® Ci Expander™ is required to connect multiple keypads in a single zone. A maximum of five Solo™ Master Keypad Modules can be included in a single zone using two Expanders.
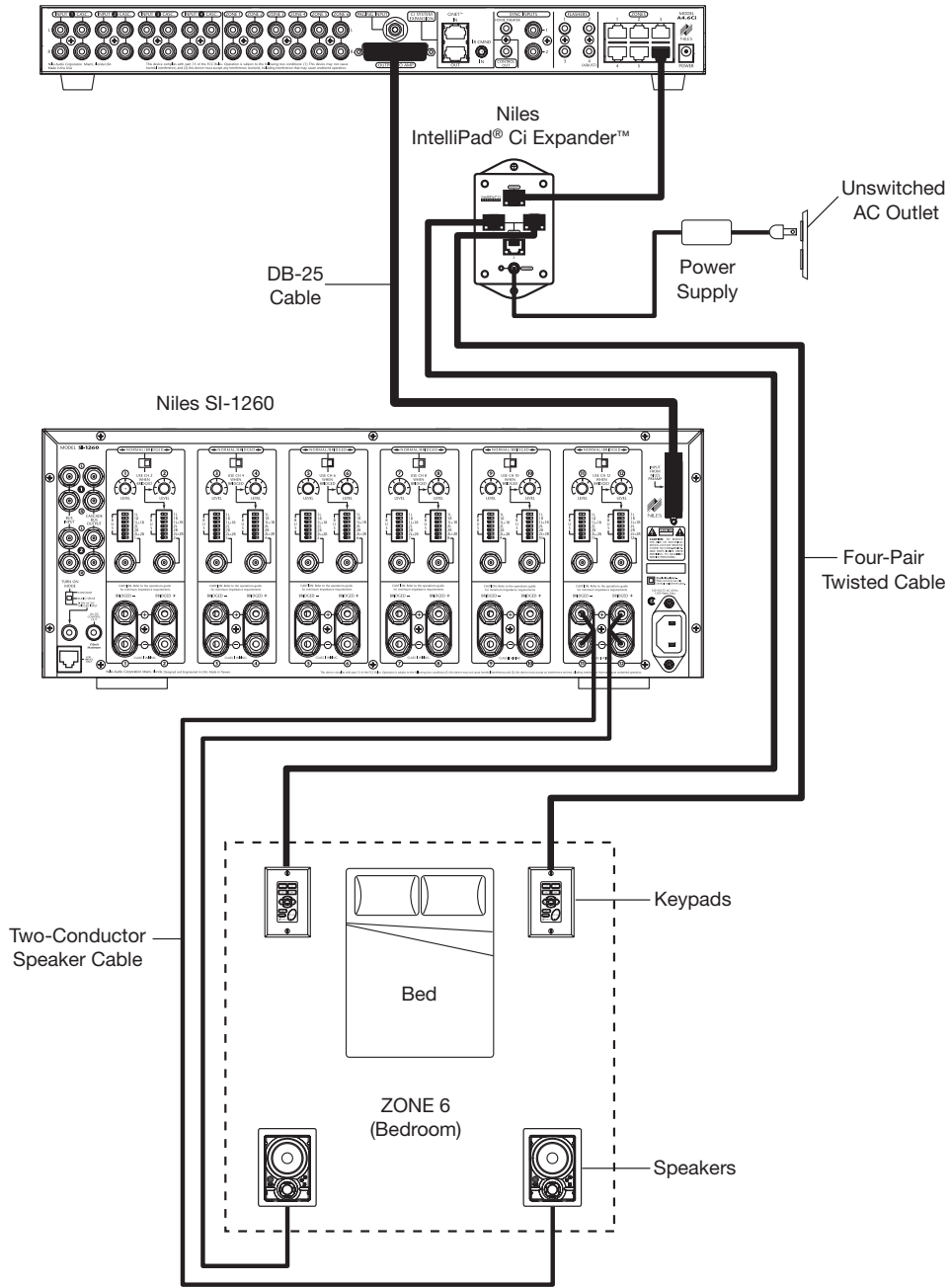


**Figure 11**

In Figure 11, two Solo™ Master Keypad Modules are installed on either side of a bed. When connected, all keypads in a zone work in tandem with one another (i.e., all control the same zone and display the same Zone ON/OFF, Mute, and Input Select Status).

## CONFIGURATION 6 – MULTIPLE LISTENING AREAS IN A ZONE

A single zone of the A4.6Ci MultiZone Preamplifier can be set up to contain more than one listening area (i.e., an adjacent living room and dining room). This configuration is chosen when the speakers in the zone are not required to play at separate volume levels or to be on/off separately.
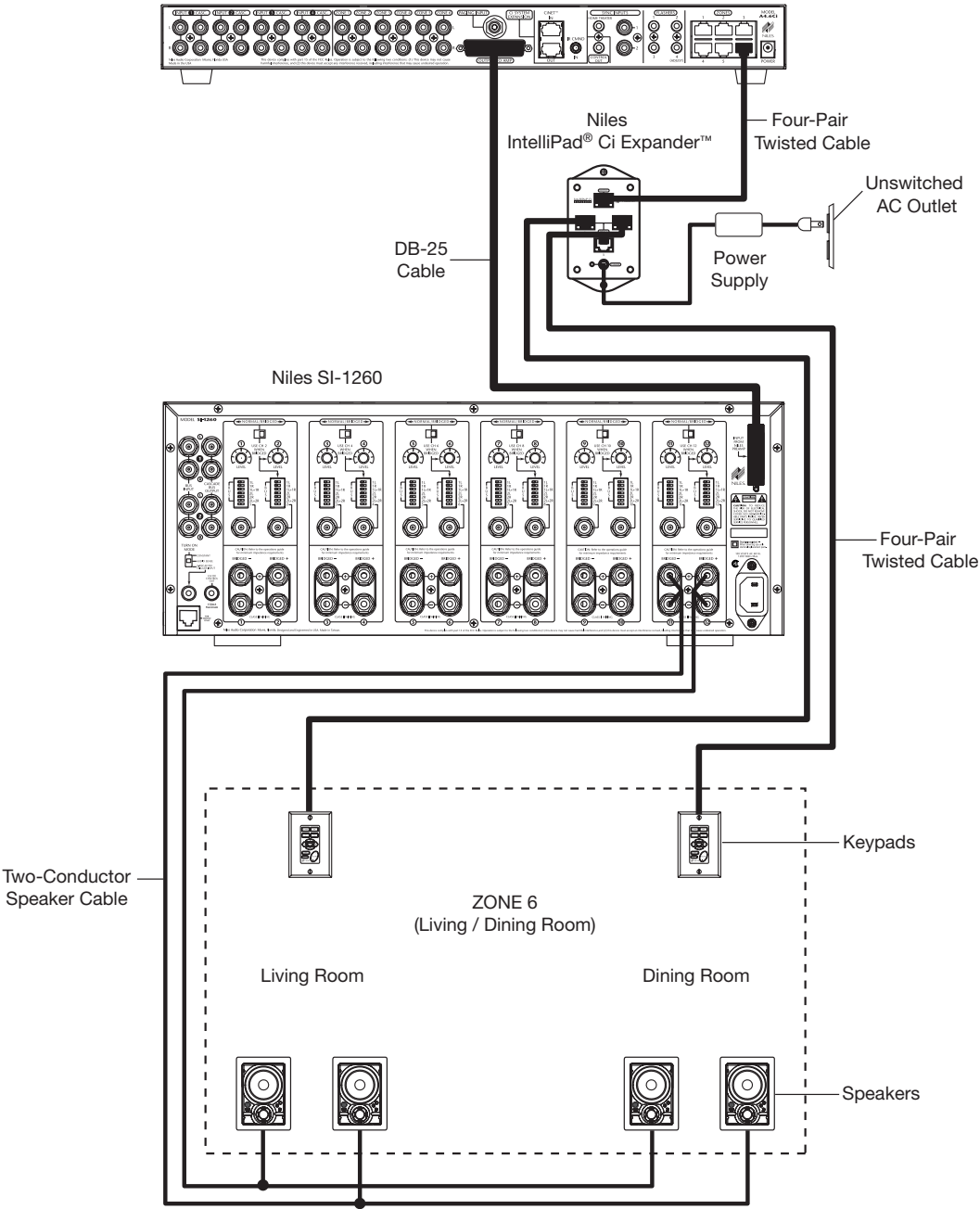


**Figure 12**

In Figure 12, a speaker cable is connected to the speaker outputs of Zone 3 and then parallel-connected to the speakers in both the living room and the dining room. A Solo™ Master Keypad Module is located in each area. A Niles IntelliPad® Ci Expander™ is required to connect the two Solo™ Master Keypad Modules in a single zone. When connected, all keypads in a zone work in tandem with one another (i.e., all control the same zone and display the same Zone ON/OFF, Mute, and Input Select Status).

## CONFIGURATION 7 – MORE THAN ONE ROOM IN A ZONE

A zone can be divided up into as many as five individual rooms with separate On/Off and Volume controls. A Niles Silencer Volume Control located along with the Master Keypad in each room is required in addition to Niles Expanders.
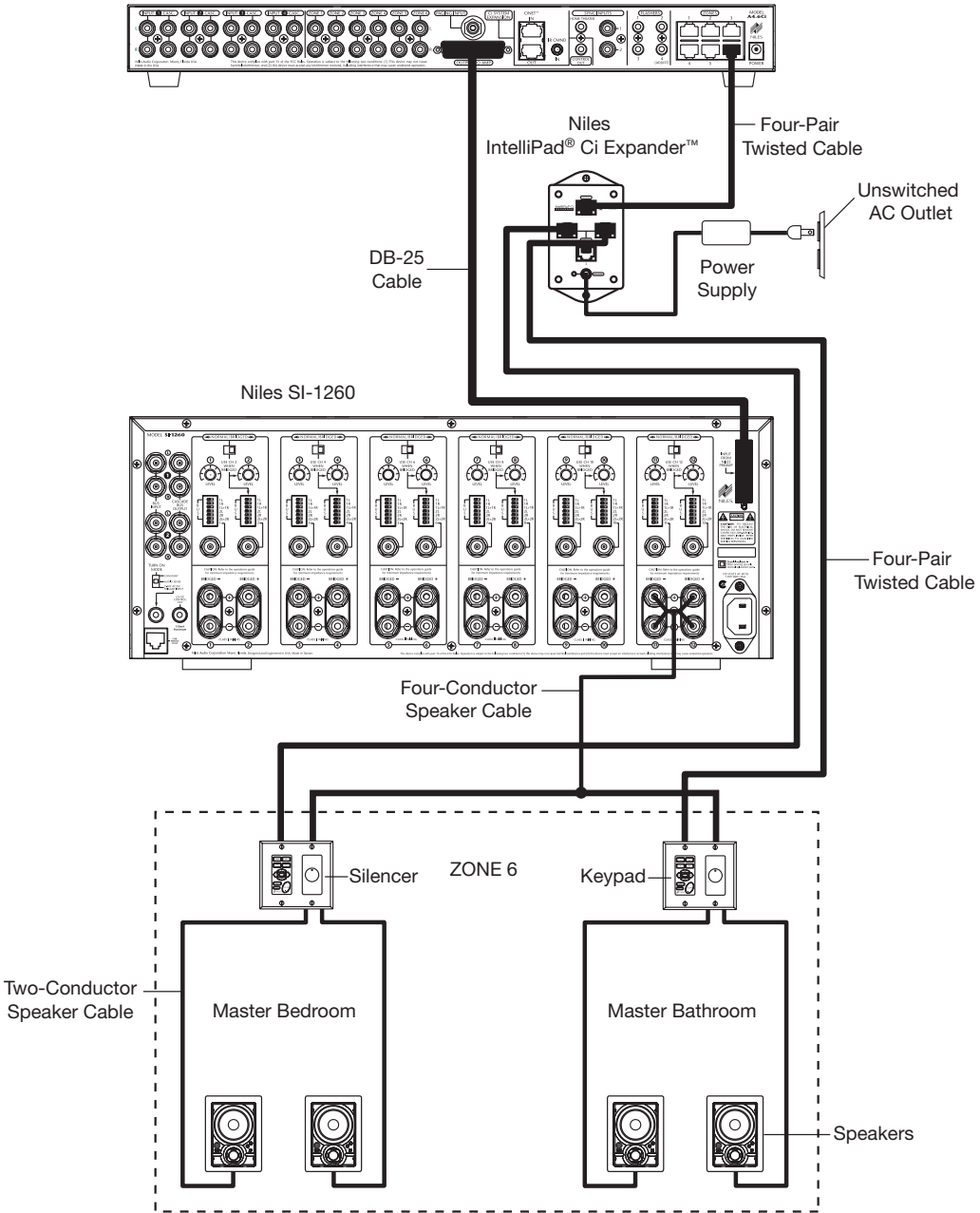


**Figure 13**

In Figure 13, Zone #6 has been expanded into two rooms that can be On/Off individually and be set at different volume levels. Impedance magnification is incorporated in the Silencer to enable the safe connection of multiple pairs of speakers to a single zone amplifier. Connection of three rooms with Master Keypads and Silencers to a single zone of the A4.6Ci is accomplished with a single Niles Expander. Five rooms is accomplished using two Expanders (see the Expander manual for more details).

**CONFIGURATION 8 – SYSTEM PAGING WITH AN EXTERNAL TELEPHONE SYSTEM**

A Paging Input connection is provided on the rear panel of the A4.6Ci. It provides a connection for the paging output signal of popular telephone systems for voice paging through the speakers located in the listening zones (see Figure 14).



**Figure 14**

A Niles AVDA-3 (see Figure 15) is required when connecting a telephone system to two or more A4.6Ci's in larger systems.



**Figure 15**

### CONFIGURATION 9 – IR REPEATING FOR CONTROL OF LOCAL COMPONENTS

An IR Repeating System can be integrated into a room connected to the Niles A4.6Ci (see Figure 16). This enables a single IR Sensor (installed in that room) to control local components with a hand-held IR remote control.



**Figure 16**

In Figure 16, a Niles IR Sensor is connected to a Niles IRP-6+ for control of local components and to a Niles A4.6Ci for control of distributed components. A Niles SPK-1 Automated Speaker Level A-B Switcher switches the front speakers in the master bedroom from the A4.6Ci distributed sound system to the local surround-sound receiver system when the local system is activated. (See the Installation section of this manual for details on the required connections for the IRP-6+ and the SPK-1.)

**Important Note:** Use of an identical brand and type component in both the local and the distributed system (i.e., a Sony CD player in both systems) is not supported by this configuration. Individual operation of identical components may not be possible (refer to Connections section).

Audio signals for the shared source components are connected to the Home Theater receiver using the cascade audio outputs.

# COMPONENT COMPATIBILITY

### INFRARED COMMAND COMPATIBILITY

IR control testing was conducted on many equipment brands to determine their compatibility with the A4.6Ci. Typical A/V source components (i.e., CD, DVD, DSS, Cable Boxes, etc.) from each brand were chosen for the test. All brands listed below passed the test.

| | | | |
|---|---|---|---|
| Adcom | JVC | Motorola | Samsung |
| APEX | Kenwood | NAD Electronics | Scientific Atlanta |
| B&K | Krell | Nakamichi | Sharp |
| Denon | Lexicon | Niles | Sherwood |
| Echo Star | Lightolier | Onkyo | Sony |
| Escient | Lutron | Panasonic | Teac |
| Go Video | Magnavox | Parasound | Technics |
| Harman Kardon | Marantz | Philips | Toshiba |
| Hitachi | McIntosh | Pioneer | Yamaha |
| Hughes | Meridian | RCA | Zenith |
| Jerrold | Mitsubishi | Rotel | |

**Important Note:** Use this list only as a starting point. All the components for every brand listed were not available at the time of testing. To avoid unforeseen incompatibilities, Niles recommends always testing components you have not yet used with a A4.6Ci prior to specifying them in your installation.

### Testing for a Possible IR Command Conflict

When using a Niles IRC-1P FloodFlasher,™ there are rare instances when the same IR command will operate more than one source component. This prevents the proper operation of another IR controlled component when the two are installed in the same system because the press of a single remote button causes both components to respond. Rare as this situation is, when working with unfamiliar equipment or two products that you have never combined in the same system, it is advisable to first test how these components interact with each other.

To test for this type of conflict, take all the remotes in the system and issue every command you will be programming in the keypads. Expose all components to each command and make sure that only the appropriate component responds.

### Solving the IR Command Conflict if Present

Remember that conflicts of this nature are rare. However, if you find yourself in this situation, contact the manufacturers to ask if they are aware of the problem and if they have a solution. Perhaps they now have a different remote, or a chip upgrade for the product.

If the manufacturers do not have a solution, the problem may be resolved by using a Niles IRC-2P MicroFlasher™ instead of IRC-1P FloodFlasher.™ In cases where neither solution works, advise the client of the situation and explain that you must substitute another component.

# SOURCE-POWER SYNCHRONIZATION

**WHAT IS SOURCE-POWER SYNCHRONIZATION?**
The A4.6Ci has been designed to keep track of the ON/OFF condition of the three source components connected to the system. This allows you to automate source components that utilize the same IR command for ON and OFF.

For this feature to function as designed, you need synchronization (sync) between the A4.6Ci and source components that utilize the same IR command for ON and OFF. This assures the users of the system that the A4.6Ci will always issue power commands correctly when they press a Master Key or the Off Key.

Source Power Sync makes it possible for users to always have a source component turn ON when they need it on and to always have all the components turn OFF when they turn the system off.

**Source Components that Require Power Synchronization**
Source components that utilize the same IR command for ON and OFF need to be synchronized. The power button for these source components sends the same IR command to turn the source components ON if they are OFF, and to turn them OFF if they are ON. It is necessary to "synchronize" these source components with the A4.6Ci so it knows not to send an ON command if the source components are already ON (if it did, the source components would turn OFF, which is not the desired result). Conversely, synchronization keeps the A4.6Ci from issuing a "power" command when the OFF Key is pressed, if the source components are already OFF.

The A4.6Ci has three Sync Inputs for each of the source components. It allows synchronization via voltage and video signals. (see Choosing a Synchronization Method on page 25 for more information on how to synchronize components).

**Source Components that Do Not Require Synchronization**
Two types of components do not require synchronization: Those with separate ON and OFF IR commands and those with "latching power."

**Source Components with Separate ON/OFF IR Commands**
Synchronization is not required for source components that are included with and respond to separate ON and OFF IR commands. When power commands are programmed as separate ON and OFF, the A4.6Ci will issue ON commands only if sync is not present. Separate OFF commands for source components are always issued when the last zone turns OFF regardless of sync status.

**Source Components with "Latching Power"**
Some source components, Such as CD players and tape decks, usually are plugged into the switched AC outlet of the preamplifier/receiver with which they are installed. These components simply turn ON when the system's receiver/preamplifier turns ON, meaning that they "latch" into an ON or OFF state and do not need an IR command to turn ON or OFF.

Because they turn ON as soon as there is power on their AC cord, once the preamplifier/receiver is turned on, these components will turn on as well. They do not need individual synchronization.

Since the A4.6Ci does not provide a switched AC outlet, the 12V control output connected to a voltage-triggered AC power strip (i.e., Niles AC-3) provides perfect control of latching source component. (See Configuration 1 in the Systems Configurations section of this manual for more information.)

# SOURCE-POWER SYNCHRONIZATION

### CHOOSING A SYNCHRONIZATION METHOD

Once you establish that all source components in the system have compatible IR commands, the next step is to choose the appropriate sync method for each component.

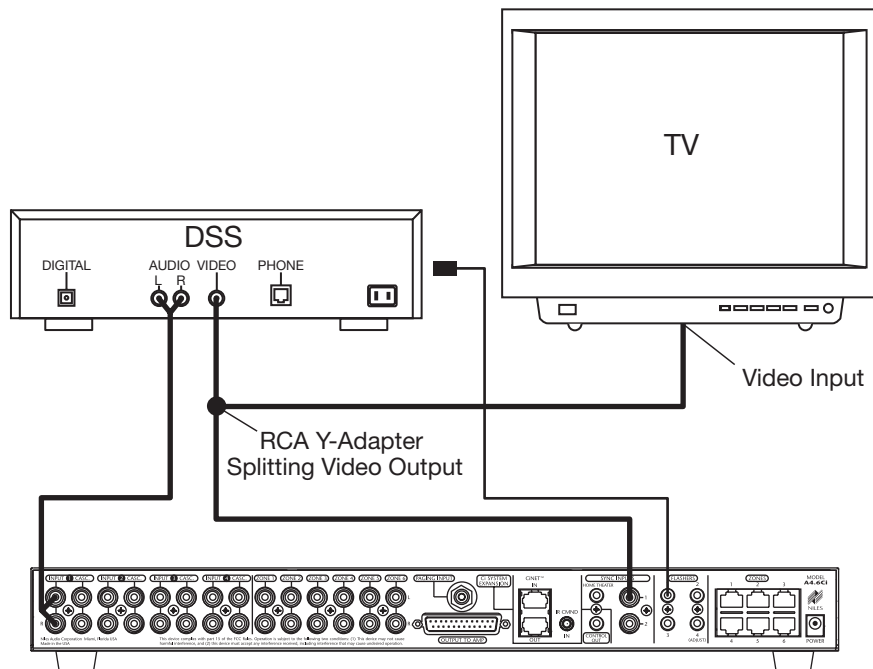There are two ways to detect when a component is ON or OFF: Video or Voltage Sync.



**Figure 18**

### Video Sync

Video sync is the easiest and most reliable method of synchronization. Most video sources have a video output active only when the device is ON. This type of video output provides an excellent method for component synchronization.

The A4.6Ci has three 12V Video Sync connections for synchronizing as many as three source components. In Figure 18, the video output of a DSS is connected to both a TV and the corresponding sync input for the DSS using an RCA Y-adapter. Picture quality will be unaffected due to the high impedance of the sync input.

If the source component has two video outputs, the need for an RCA Y-adapter is eliminated. Simply connect the first video output to its normal system destination, and the second video output will be dedicated for the sync input.

# SOURCE-POWER SYNCHRONIZATION

**Voltage Sync**

Voltage sync is also a reliable method of synchronization if chosen and implemented correctly. The sync inputs can detect the control out voltage from a Niles signal-sensing product interfaced to the source component.

**Obtaining Voltage Sync**

Current Sensing

Current Sensing synchronizes a component by detecting the changes in the AC power draw that occurs with a component when it turns ON and OFF.
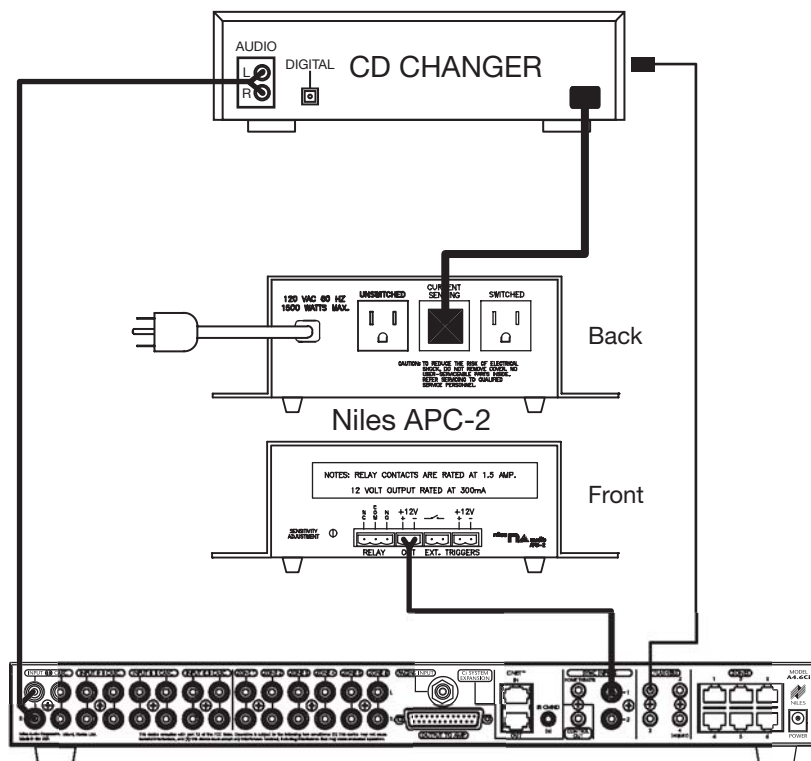


**Figure 19**

In Figure 19, a Niles APC-2 Current Sensing Switch senses the change in power consumption of a CD changer when it is turned ON. When it senses that change, it outputs a 12V DC signal. The synchronized CD changer's AC power plug is connected to the current sensing outlet on the APC-2. The APC-2's 12V DC output is connected to the A4.6Ci's sync input dedicated to the CD changer, using a Niles 10' bare wire to mini-plug accessory cable (FG00724, see Accessories for more details).

When using a Niles APC-2, a minimum change of 30W is required for reliable current sensing. If the component does not have a 30W change in current draw when turning ON (i.e., DSS receivers and most VCRs and CD players), consider the last method, Light Sensing.

# SOURCE-POWER SYNCHRONIZATION

Light Sensing

Using a light sensor (LS-1) to synchronize your components is usually your last choice, simply because the other choices are more reliable. The Niles LS-1 Light Sensor can synchronize a component by sensing changes in light. The 12V output of the LS-1 is then connected to the A4.6Ci's sync input dedicated for that component. A mini-plug to RCA adapter is required for this connection (see Connections for more information).
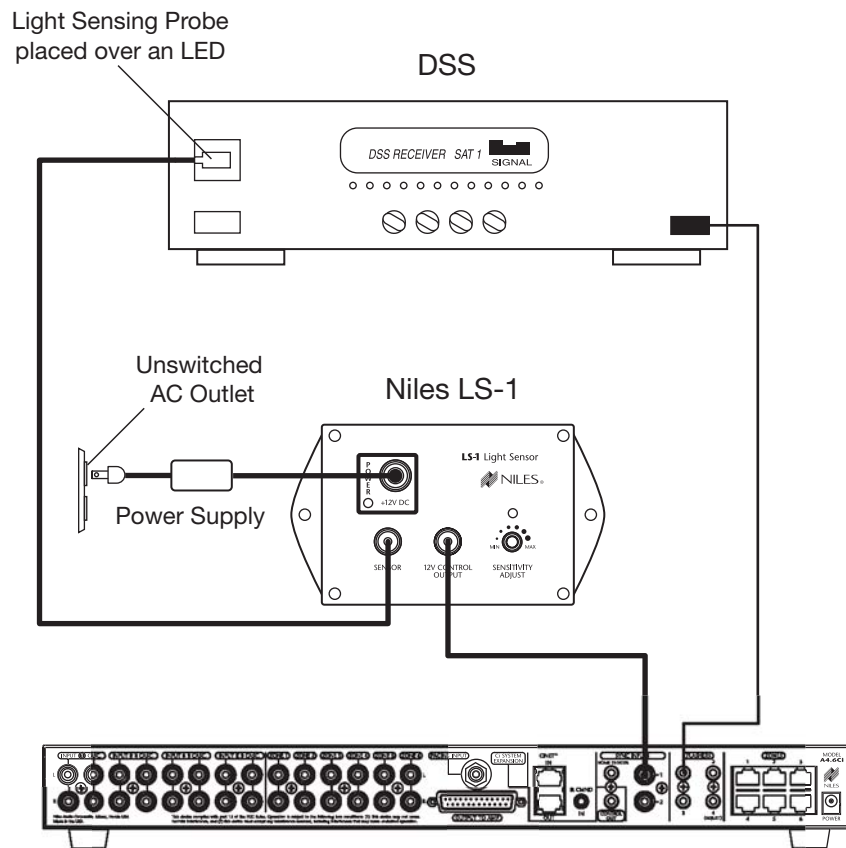


**Figure 20**

In Figure 20, a Niles LS-1 Light Sensor senses changes in brightness of a DSS's front-panel LED and outputs a 12V DC signal when the LED is brightest. A blocking cover prevents ambient light from falsely triggering the LS-1.

An unused optical digital output on the rear panel of a digital source component also can provide a light source for sync using the LS-1.

## SOURCE AND HOME THEATER SYNC STATUS

Sync status (the presence or absence of a valid sync signal) of source components and the Home Theater associated with the Master A4.6Ci are displayed on the LEDs located in the hidden programming panel. These LEDs illuminate only while a valid sync signal is being received by the A4.6Ci during normal operation mode. Source 2, Source 3, and Source 4 LEDs represent Source 2, Source 3, and Source 4 respectively. The Tuner LED represents the Home Theater. These status LEDs are used during system troubleshooting. Manually turning ON/OFF synchronized source components and the integrated Home Theater will turn ON/OFF the respective component's status LED if synchronized correctly.

**MASTER KEYS/SOURCE BUTTONS**

The Master Keys available on the Solo™ and Select™ Master Keypad Module and the Source Buttons on the hand-held R-4 Remote accessory (Figure 21) provide "one-touch activation" of the A4.6Ci and its connected source components.

The Master Keys on the Solo and Select Master Keypad Modules are equipped with back-lit LEDs for indicating Zone ON/OFF, Zone Mute, and Zone Input Selection status.

The Source Buttons on the R-4 Remote correspond to the Master Keys on the Solo Master Keypad Module (Master Key 1 = Tuner, Master Key 2 = Source Button 2, Master Key 3 = Source Button 3, and Master Key 4 = Source Button 4).
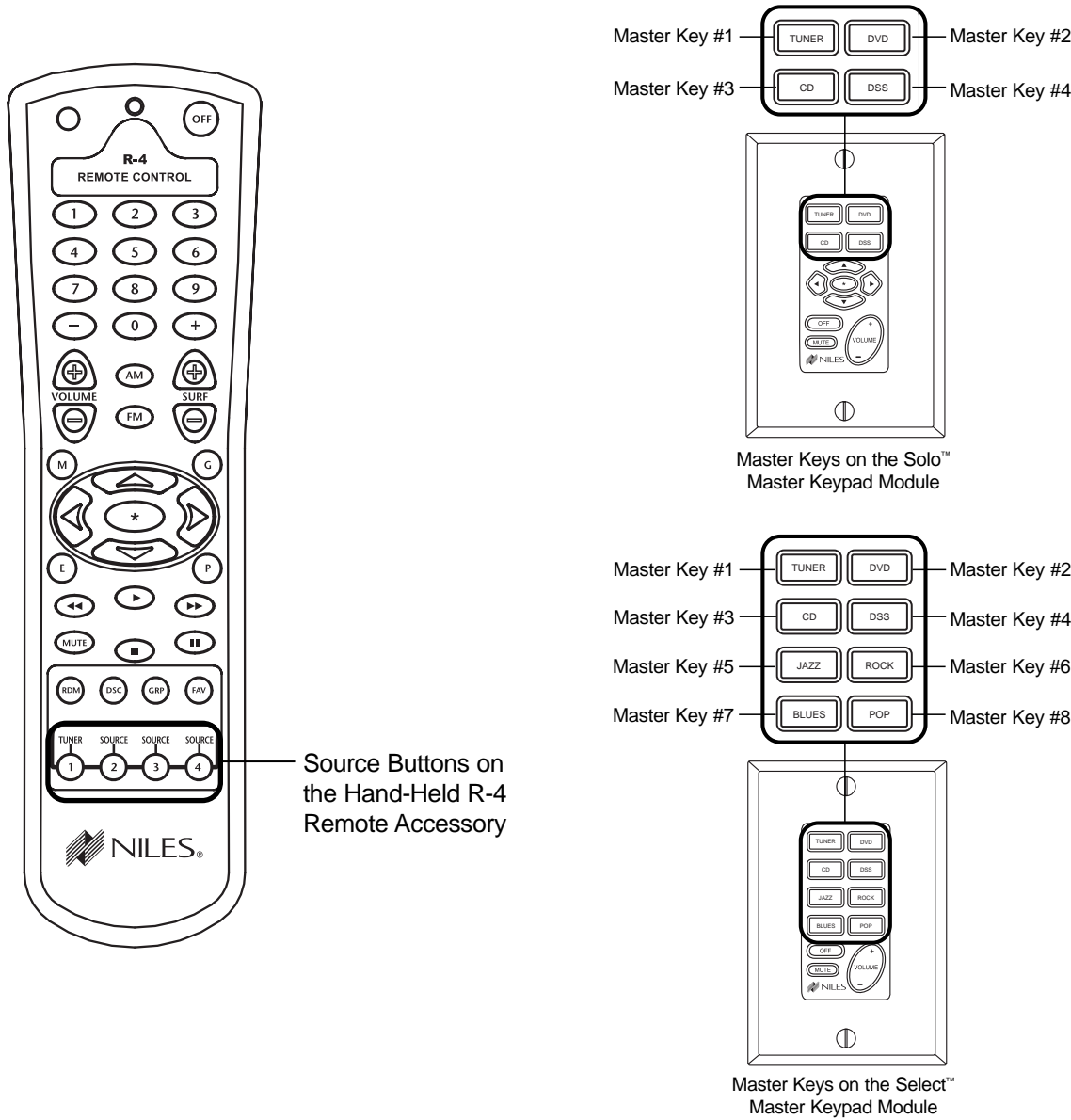


Master Key #1 — TUNER   DVD — Master Key #2
Master Key #3 — CD   DSS — Master Key #4

Master Keys on the Solo™
Master Keypad Module

Source Buttons on the Hand-Held R-4 Remote Accessory

Master Key #1 — TUNER   DVD — Master Key #2
Master Key #3 — CD   DSS — Master Key #4
Master Key #5 — JAZZ   ROCK — Master Key #6
Master Key #7 — BLUES   POP — Master Key #8

Master Keys on the Select™
Master Keypad Module

**Figure 21**

The eight available Master Keys and their corresponding four Source Buttons are individually programmable. Once programmed, they operate the system identically in each zone. **Note:** Master Keys on the Solo and Select Master Keypad Module should be labeled the same in each zone.

**MASTER KEY/SOURCE BUTTON EVENTS**

When you press a Master Key on a Solo™ or Select™ Master Keypad Module, or a Source Button on the hand-held R-4 Remote accessory, up to six events may occur.

| Event 1 | Event 2 | Event 3 | Event 4 | Event 5 | Event 6 |
|---------|---------|---------|---------|---------|---------|
| Zone-ON | Zone-ON Sequence | System Input | Source Power ON | System-ON Sequence | Master Key Sequence |

### Event 1

This event turns the appropriate **Zone ON** when a Master Key is pressed. Additionally, the 12V Control Output activates when the first zone in the system turns on during this event.

**Note:** Pressing and holding a Master Key turns on all zones assigned via DIP switches located on the front panel.

### Event 2

The **Zone-ON Sequence** event is programmed with IR commands and/or delays. Each zone has its own programmable Zone On Sequence. However, unlike other Master Key events, the Zone-ON Sequence only occurs when that zone first turns on. It is typically used for light controllers and discrete component commands.

**Note:** When a zone issues a system-wide ALL ON command, the Zone-ON Sequence event occurs only for that zone.

### Event 3

The source input assignment for the Master Key is programmed into the **System Input** event individually for each Master Key. These inputs are selected every time a Master Key is pressed or pressed and held.

### Event 4

The **Source Power** event is programmable with IR commands individually for each Master Key. IR commands taught to the Master Keys assigned to inputs 1 and 2 are issued conditionally and based on the presence of a sync signal at the corresponding sync port.

### Event 5

The **System-ON Sequence** event is programmed with IR commands and/or delays and only occurs when the first zone in the system turns on. It is typically used for issuing a stop command to latching source components that automatically play when powered.

**Note:** Only the A4.6Ci set as the Master executes the System ON Sequence.

### Event 6

The **Master Key Sequence** is executed last and is programmed with IR commands and/or delays. It occurs every time the Master Key is pressed and is typically used for source play or channel commands.

**Note:** A two-second delay is automatically executed prior to the Master Key Sequence when the first zone in the system is activated or when a component power command is issued during Event 4.

**Figure 22**

## MASTER KEY/SOURCE BUTTON OPERATION
The Master Key/Source Buttons have two methods for operating the system.

### Single-Zone Operation
The first method, a quick tap of a Master Key/Source Button in a zone (holding the key/button for less than three seconds), causes only that zone to turn ON. The quickly tapped Master Key illuminates GREEN after the zone turns ON.

### System-Wide Operation
The second method, a press and hold of a Master Key/Source Button in any zone (holding the key/button for more than three seconds), turns all zones ON that are set to ALL ON/Page Enabled (this setting is made via front-panel programming DIP switches, set individually for each zone). All zones enabled for ALL ON/Page select the source associated with the Master Key/Source Button pressed and held, and that same Master Key LED illuminates GREEN.

Zones responding to system wide commands turn ON to a default volume. This volume can be individually adjusted for each zone (see the programming section of this manual for details.)

## OFF KEY/OFF BUTTON
The OFF Key/Button included on the Solo™ and Select™ Master Keypad Module and the R-4 Remote provide one-touch system deactivation. When you finish listening in a zone, a single press of the OFF Key/Button deactivates the zone.
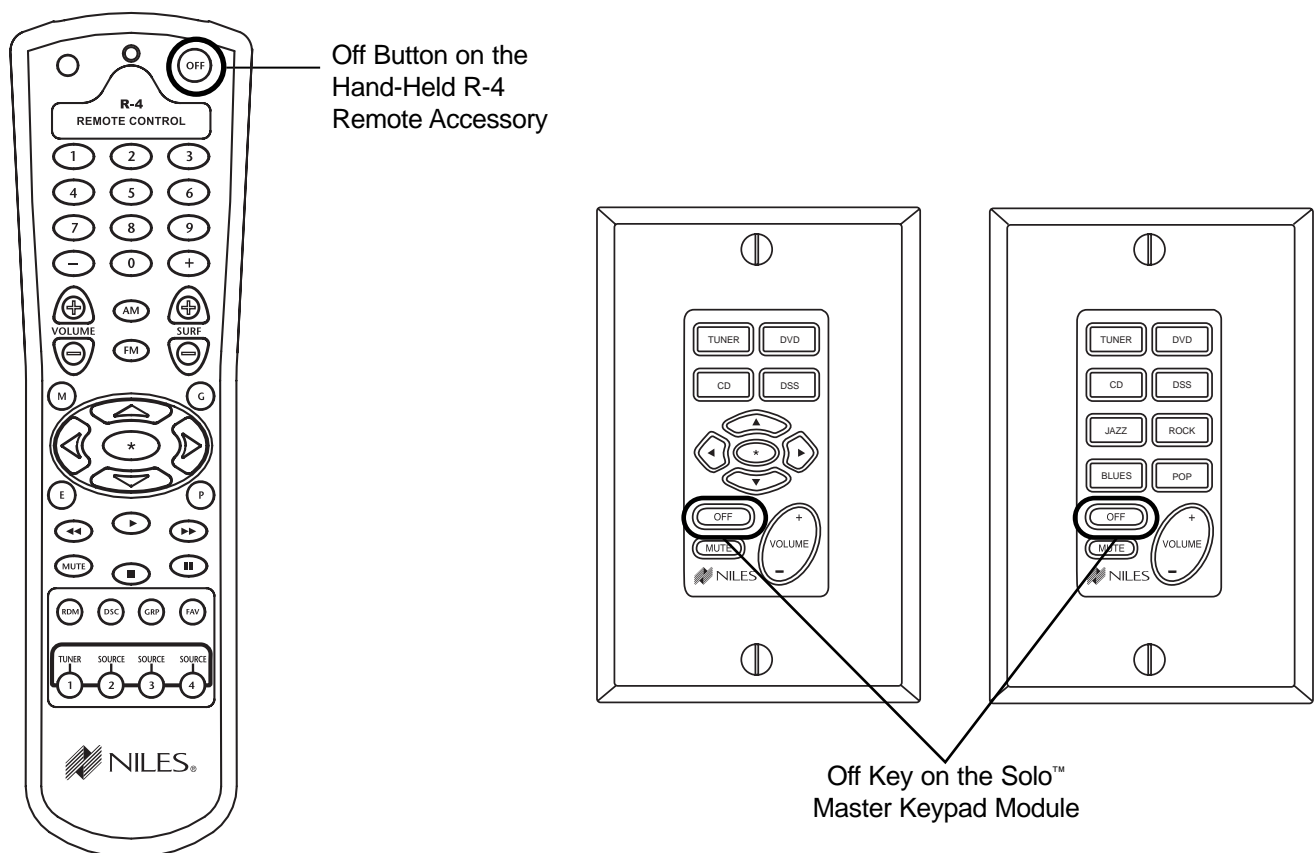


Off Button on the
Hand-Held R-4
Remote Accessory

Off Key on the Solo™
Master Keypad Module

**Figure 23**

## OPERATIONAL OVERVIEW

**OFF KEY EVENTS**

When you press the OFF Key/Button, up to four events may occur. The first event is the Zone OFF sequence programmed by the installer for the zone that is turning OFF.

The second event is factory programmed and turns the zone or all zones OFF every time the OFF Key/Button is pressed.

The third event is responsible for turning OFF the source components and occurs only if the zone turning OFF was the last zone ON in the system (including the Home Theater zone that shares source components). This event requires no programming. The programming accomplished for the Master Key Source ON events is reversed to deactivate the source components.

The fourth event is the System OFF sequence programmed by the installer. It occurs only if the zone turning OFF was the last zone ON in the system (including the Home Theater Zone that shares source components).

| Event 1 | Event 2 | Event 3 | Event 4 |
|---|---|---|---|
| Zone-OFF Sequence | Zone OFF | Source Power OFF | System-OFF Sequence |
| Installer Programmed | Factory Programmed | Programmed Automatically | Installer Programmed |

**OFF KEY/BUTTON OPERATION**

The manner in which the Off Key/Button operates the system is determined by the system configuration and how the OFF Key/Button is pressed.

These various types of operation are especially useful in systems with multiple rooms within the zones.

**Important Note:** When a zone has more than one room, a Niles Silencer Volume Control and Master Keypad Module are required in each room within the zone to provide individual ON/OFF and volume adjustment.

Following is an operational description for zones with one room and zones expanded into multiple rooms using Silencers.

**A Zone with One Room**

> **Individual-Room Operation** - A press of the Off Key for less than three seconds in a zone that is currently ON (selected Master Key illuminated GREEN) causes that zone to turn OFF (Master Key LED turns OFF). OFF Key Events 1 and 2 occur for that zone. OFF Key Events 3 and 4 occur if that zone is the last zone turning OFF in the System and the Home Theater that shares sources is also OFF.

> **System-Wide Operation** - A press and hold of the OFF Key for more than three seconds always turns all zones OFF (Master Key LEDs turn OFF). Event 1 occurs in the zone issuing the All OFF command and Event 2 occurs for all other zones, sequentially. Additionally, Events 3 and 4 occur if the Home Theater that shares sources is also OFF.

## Multiple Rooms in a Zone Using an Expander and Silencers

**Individual-Room Operation** - Multiple rooms within a zone using silencers require two short taps of the OFF Key to turn OFF that zone individually.

A press of the OFF Key for less than three seconds in a room that is currently ON (selected Master Key illuminated GREEN) causes that room to MUTE (selected Master Key now illuminates RED).

A press of the OFF Key for less than three seconds in a room that is ON and MUTED (selected Master Key illuminated RED), causes the entire zone to turn OFF (all Master Key LEDs turn OFF). OFF Key Events 1 and 2 occur when the zone turns OFF. Additionally, Events 3 and 4 occur if the zone is the last zone in the system turning OFF and the Home Theater that shares sources is also OFF.

**System-Wide Operation** - A press and hold of the OFF Key always turns all zones off (Master Key LEDs turn OFF). Event 1 occurs in the zone issuing the All OFF command and Event 2 occurs for all other zones, sequentially. Additionally, Events 3 and 4 occur if the Home Theater that shares sources is also OFF.

### VOLUME KEYS/VOLUME BUTTONS

The volume keys on the Solo™ and Select™ Master Keypad Module and the volume buttons on the R-4 Remote provide control of volume for individual zones.



Volume Buttons on the R-4 Hand-Held Remote Accessory

Volume Keys on the Solo™ and Select™ Master Keypad Module
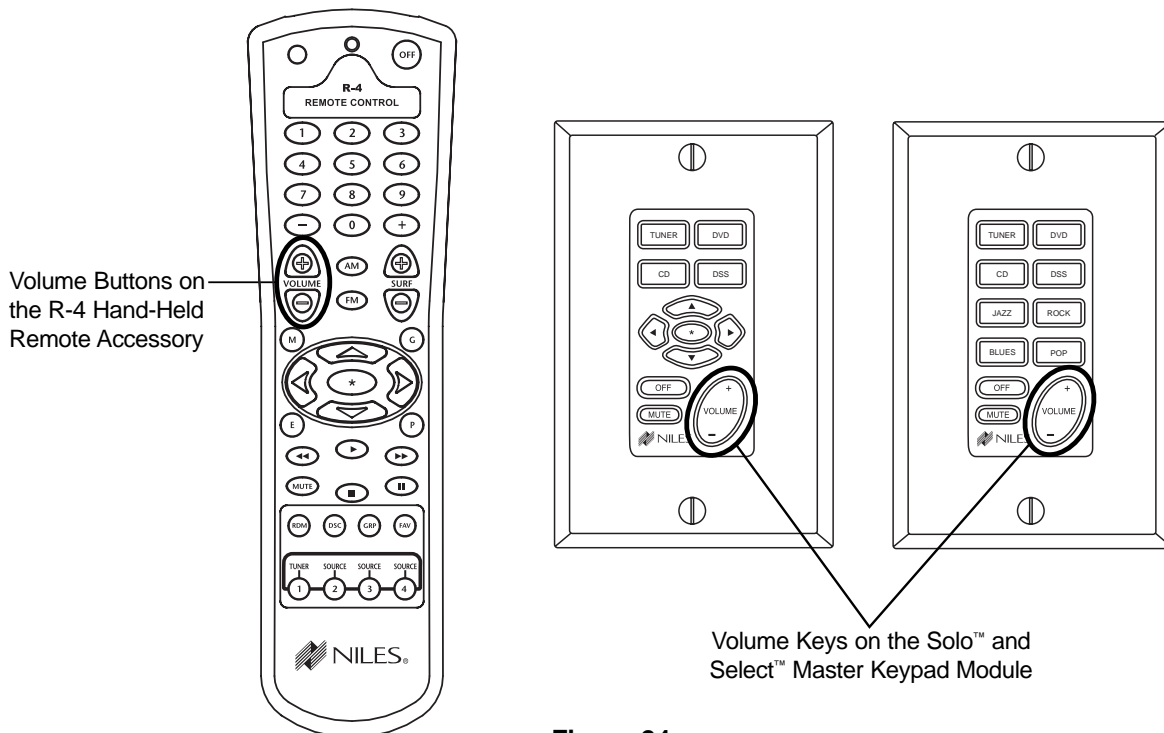
**Figure 24**

### VOLUME KEYS/VOLUME BUTTONS OPERATION

Pressing the Volume + or the Volume – Keys/Buttons raises and lowers the preamplifier output for the zone in which you are located.

**Important Note:** Zones with multiple rooms including Silencer Muting Volume Controls have the Volume Keys on the Master Keypad replaced with the included Surf+/Surf– Function Keys/Buttons (refer to the Silencer Operation and Installation Guide for more details). IR commands programmed into the Surf+/Surf– Function Keys/Buttons are issued from these keys when using a Master Keypad installed with a Silencer (see page 56 for details on programming Function Keys).

### MUTE KEY/MUTE BUTTON

The Mute Key/Button provides a method of turning the sound ON\OFF for a brief moment in an individual zone without turning the zone OFF. (This also prevents the source components from being turned OFF.)
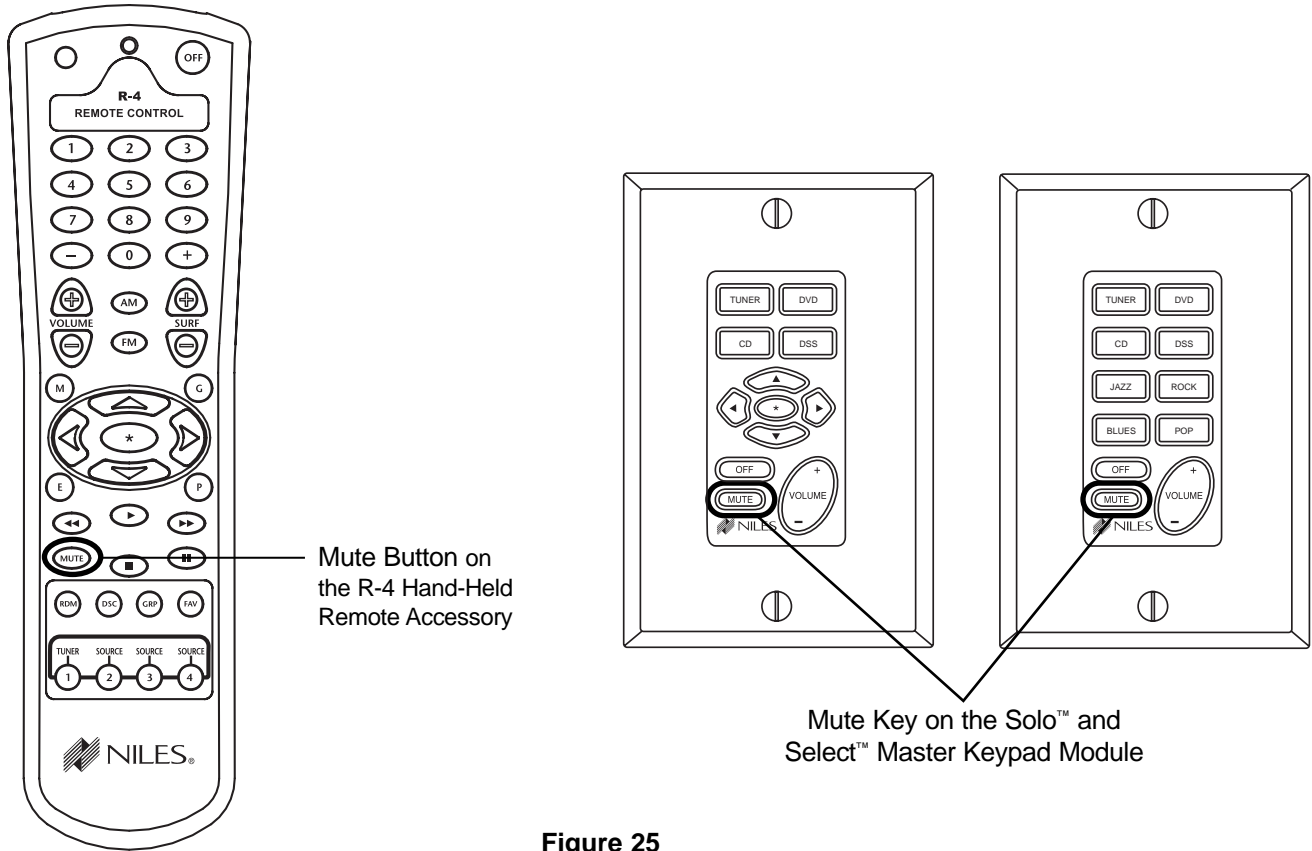
Mute Button on the R-4 Hand-Held Remote Accessory

Mute Key on the Solo™ and Select™ Master Keypad Module

**Figure 25**

### MUTE KEY/MUTE BUTTON OPERATION

In a single-room zone, the Mute Key mutes and unmutes the preamplifier for that zone only. The system still considers the zone to be ON while the zone is MUTED. The Master Key lights GREEN while the zone is ON, and RED while the zone is MUTED. If a zone has more than one Master Keypad Module, but has no silencers, all the Master Keypad modules always illuminate identically.

In a zone including many rooms with silencers, the Mute Key mutes and unmutes the silencer for that room only. The system considers the room to be ON while the zone is muted. The Master Key lights GREEN while the room is ON, and RED while the room is MUTED. A muted room also will un-mute if any Master Key is pressed or if the volume keys are pressed.

## FUNCTION KEYS/BUTTONS

The Solo™ Master Keypad Module, the Transport™ Accessory Keypad Module and the R-4 Remote include various function keys for control of the connected source components. Figure 23 illustrates the available function keys for all of the control devices.
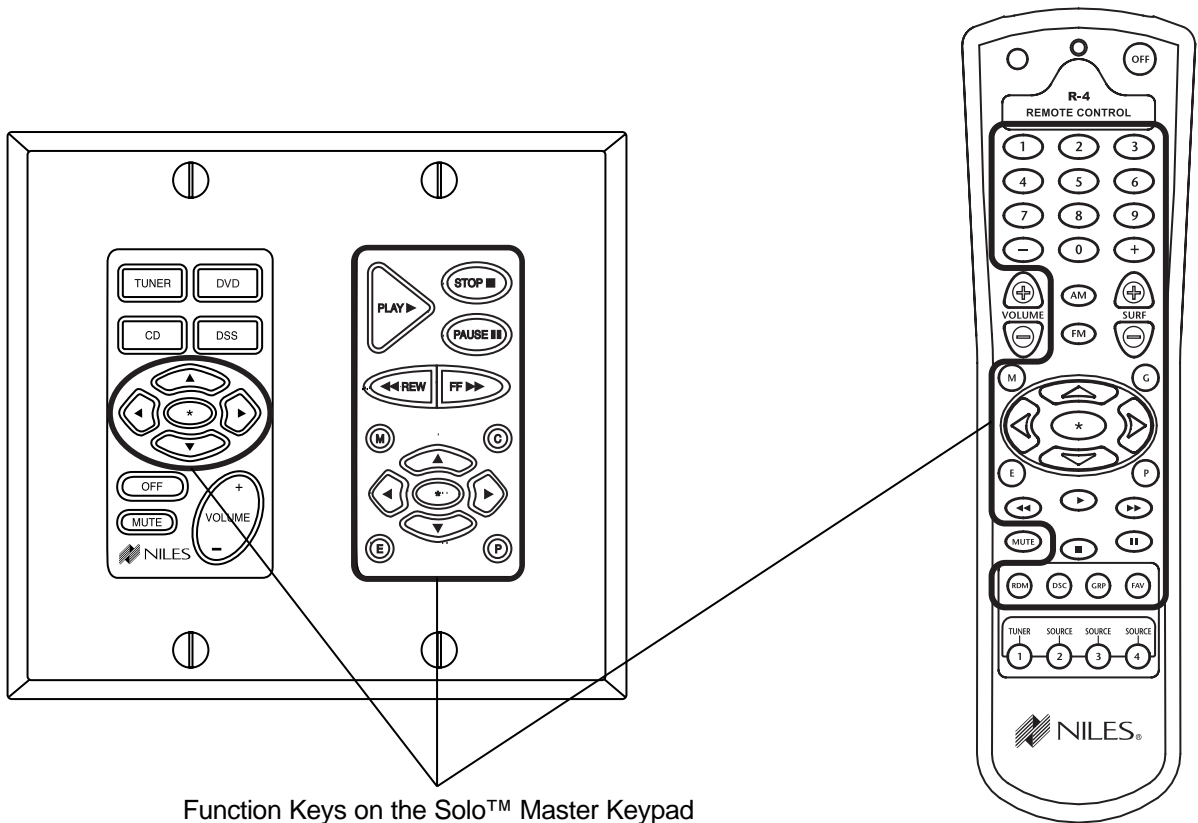
Function Keys on the Solo™ Master Keypad
Module, the Transport™ Accessory Module
and the Hand-Held R-4 Remote Accessory

**Figure 25**

## FUNCTION KEY/BUTTON OPERATION

After the Master Key/Source Button for a connected source component has been pressed, the A4.6Ci activates a zone and selects that source component. The individual Function Keys/Buttons in that zone will now issue the IR commands that have been programmed for the selected source component. A sequence of IR commands and/or delays can be issued when a Function Key/Button is programmed with a Function Key/Button Sequence.

## OPERATIONAL OVERVIEW

**IDENTICAL SOURCE COMPONENTS**
The A4.6Ci routes the individual source-component IR commands that with which it has been programmed to specific flasher outputs. This provides individual control of identical source components (i.e., two DSS receivers of the same brand and model). These programmed IR commands are routed to the individual flasher outputs based on the assigned source for which they were programmed. The table below designates where IR commands are routed when a zone is selected to one of the three source components.

| Assigned Source | FLASHER OUTPUTS | | | |
| --- | --- | --- | --- | --- |
| | Flasher 1 | Flasher 2 | Flasher 3 | Flasher 4 |
| Source 1 | X | | | |
| Source 2 | | X | | |
| Source 3 | | | X | |
| Source 4 | | | | X |

**Important Note:** Operation of identical source components is not possible using the source components' actual IR commands in a zone installed with an IR sensor. (i.e., using the source component's original remote control or a learning remote control programmed with these IR commands). Identical source components can be operated from a zone with an IR sensor using Niles IR commands from the preamplifier or from the hand-held R-4 Remote commands (see Programming Overview for more information).

**SHARED SOURCE COMPONENTS**
Source components (i.e. DVD player, CD changer, DSS receiver) used with an A4.6Ci, can be "shared" with multiple A4.6Ci's and/or a Home Theater system (refer to System Configurations 2, 3, and 4 for more details). The A4.6Ci has been designed to provide coordinated control of these shared source components from all zones of all A4.6Ci's and the Home Theater.

A source component in an A4.6Ci multi-zone system is considered "shared" when its audio signal is connected to more than one A4.6Ci or if it is connected to an A4.6Ci and a Home Theater system (refer to System Configuration 2 and System Configuration 3 for more details).

**OPERATING A SYSTEM WITH MULTIPLE A4.6Ci's**
Operating a system with multiple A4.6Ci's is the same as operating a system with only one A4.6Ci Solo™ or Select™ Master Keypad. Modules in each zone independently operate the zone to which they are dedicated (i.e., Zone ON/OFF, Volume Up/Down, Mute). When a user in a zone from any A4.6Ci, presses a key/button, the IR commands required for the shared source components (i.e., Power ON/OFF, Play, Stop and Channel Up), are issued by the A4.6Ci that has been programmed. (See the Programming Section of this manual for specific details on programming.)

# OPERATIONAL OVERVIEW

## OPERATING A SYSTEM INTEGRATED WITH A HOME THEATER

### Operation from the Stereo Zones Provided by the A4.6Ci

User operation from the zones provided by A4.6Ci's, are not affected when integrating a Home Theater to share source components (see System Configurations 3 and 4). Solo™ or Select™ Master Keypad Modules in each zone independently operate the zone to which they are dedicated (i.e., Zone ON/OFF, Volume Up/Down, Mute). When a user in a zone from any A4.6Ci, presses a key/button, the IR commands required for the shared source components (i.e., Power ON/OFF, Play, Stop and Channel Up) are issued by the A4.6Ci that has been programmed. (See the Programming Section of this manual for specific details on programming.)

### Operation from the Home Theater Zone

A Home Theater can be integrated to share source components with an A4.6Ci using one of three methods. How the Home Theater will operate depends on which method is chosen. The three methods of integration are listed below, along with a description of the Home Theater operation they provide.

#### Method 1. *Integrated Home Theater Using 12V Home Theater Sync and IR Repeating*

The Home Theater IR Remote (programmed with the actual IR commands of the shared source components) sends IR commands to the shared source components via the IR Input located on the rear panel of the A4.6Ci. This enables control of the shared source components for users in the Home Theater. All IR commands for shared source components are passed through to all four of the flasher outputs on the rear panel of the A4.6Ci. Only discrete power ON and transport commands for the shared source components should be issued.

**Important Note:** Because all of the actual IR commands for shared components are passed through to all the flasher outputs simultaneously, identical source components cannot operate individually with this method. Also, when using this method, reliable activation of shared source components that use a single IR command for power ON/OFF is not possible. (Refer to Method 2 for operating identical shared source components and components with a single IR command for power ON/OFF.)

When the Home Theater turns ON, it provides a 12V status signal that is connected to the Home Theater sync input on the rear panel of the A4.6Ci. This provides the ON/OFF status of the Home Theater to the A4.6Ci.

The moment a valid Home Theater sync signal is present at the A4.6Ci, the A4.6Ci's 12V control output sends a turn-on trigger for a voltage-triggered AC power strip (i.e., Niles AC-3) to activate latching source components.

When the Home Theater is turned OFF, the A4.6Ci checks itself and any other A4.6Ci's in the system to see if any zones are still ON. If all zones are OFF, the 12V control output shuts OFF, turning OFF the latching source components. Power OFF IR commands for turning OFF the IR-controlled shared source components also are issued.

#### Method 2. *Integrated Home Theater Using 12V Home Theater Sync and Niles R-4 Commands*

The Home Theater IR remote (programmed with the Niles R-4 IR commands) sends IR commands to the A4.6Ci via the IR input on the rear panel. This enables control of the shared source components for users in the Home Theater.

All the actual IR commands for shared source components are programmed into the A4.6Ci. When a Niles IR command is received, the corresponding programmed source IR commands are sent to the flasher output dedicated to the shared source component that is selected (i.e., Source 1 = Flasher 1, Source 2 = Flasher 2, Source 3 = Flasher 3, Source 4 = Flasher 4). Identical source components can be individually operated with this method.

**Important Note:** Shared source components that are unique in the system can have their actual IR commands programmed into the Home Theater remote and issued for simple IR repeating with this method.

When the Home Theater turns ON, it provides a 12V status signal that is connected to the Home Theater sync input on the rear panel of the A4.6Ci. This 12V status signal provides the ON/OFF status of the Home Theater to the A4.6Ci.

The moment a valid Home Theater sync signal is present at the A4.6Ci, the A4.6Ci's 12V control output sends a turn-on trigger for a voltage-triggered AC power strip (i.e., Niles AC-3), activating latching source components.

When the Home Theater is turned OFF, the A4.6Ci checks itself and any other A4.6Ci's in the system to see if any zones are still ON. If all zones are OFF, the 12V control output shuts OFF, turning OFF the latching source components. Power OFF IR commands for turning OFF the IR-controlled shared source components also are issued.

**Method 3.** *Integrated Home Theater without 12V Home Theater Sync and Using Niles R-4 Commands*
The Home Theater IR remote (programmed with the Niles R-4 IR commands) sends IR commands to the A4.6Ci via the IR input located on the rear panel. This enables control of the shared source components for users in the Home Theater.

All the actual IR commands for shared source components are programmed into the A4.6Ci. When a Niles IR command is received, the corresponding programmed source IR commands are sent to the flasher output dedicated to the shared source component that is selected (i.e., Source 1 = Flasher 1, Source 2 = Flasher 2, Source 3 = Flasher 3, Source 4 = Flasher 4). Identical source components can be individually operated with this method.

**Important Note:** Shared source components that are unique in the system may have their actual IR commands programmed into the Home Theater remote and issued for simple IR repeating using this method.

**When the Home Theater is turned OFF, the Home Theater remote sends a Niles OFF command to the A4.6Ci.** The A4.6Ci then checks all zones, for all A4.6Ci's in the system. If all zones are OFF, the 12V control output shuts OFF, turning OFF the latching source components. Power OFF IR commands for the IR-controlled shared source components programmed into the A4.6Ci also are issued, conditionally, based on the source-sync status of the shared source components.

## SYSTEM-BUSY INDICATION
The A4.6Ci has a built-in system-busy indication mode that is displayed on the Master Key LEDs of the Solo™ Master Keypad Module. If the A4.6Ci receives simultaneous commands from two different users and each user is located in a separate zone, the user who does not get the expected response will be alerted by the Master Key. That Master Key LED will quickly blink RED three times. The user who received the RED flashing Master Key simply issues his or her command again.

**Important Note:** IR commands and delays included in the sequence for Master Keys also cause the system to indicate busy while they are being executed.

## PAGING INDICATION
The A4.6Ci has a built-in paging-indication mode that is displayed on a Master Key LED of the Solo™ or Select™ Master Keypad Module. If the A4.6Ci sends a page to a zone, the user is alerted by the Master Key. That Master Key LED will blink slowly GREEN. The Master Key LED resumes its last state (ON or OFF) when the page is completed.

**Important Note:** Paging takes priority over all system functions until the page has ended.

**PLACEMENT**
Place the A4.6Ci on a flat, level surface such as a table or shelf, with its weight equally distributed on each of its four feet. Like any high-fidelity component, the A4.6Ci will last much longer if it receives adequate ventilation for proper cooling (see Figure 28).

**Figure 28**

Make sure that there is a minimum of 1" of free air space above the preamplifier and 1" on each side for proper ventilation.

Allow a minimum of 2" of depth behind unit to accommodate cables and connectors.

## TERMINATING FOUR-PAIR TWISTED CABLE

The Solo™ and Select™ Master Keypad Modules, the expander, and the A4.6Ci's system-expansion connections require a four-pair twisted cable with a one-to-one wiring configuration. To maintain consistency throughout all Intellipad® Ci installations, we recommend the color-coding pattern described in Figure 31. However, you may follow the color-coding pattern of your choice, as long as it is consistent throughout the system.

**1** = Green/White

**2** = Green

**3** = Orange/White

**4** = Blue

**5** = Blue/White

**6** = Orange

**7** = Brown/White

**8** = Brown

Pair 2

Pair 3  Pair 1  Pair 4

1  2  3  4  5  6  7  8

T568A
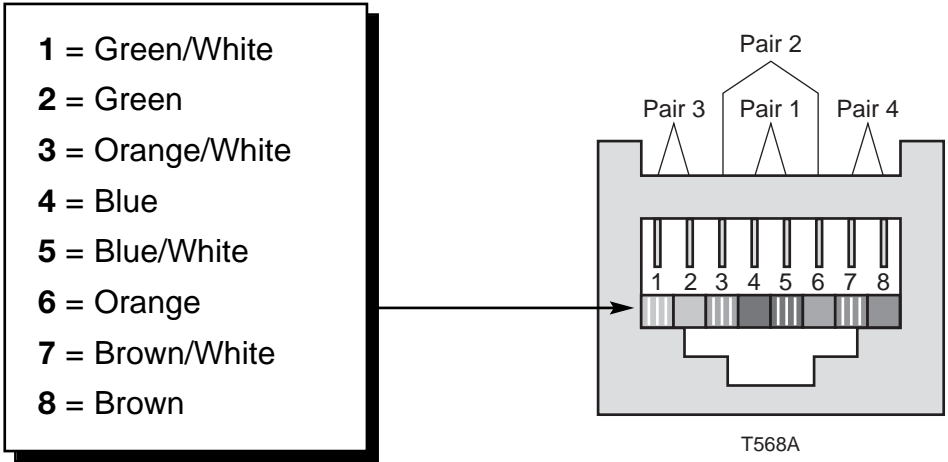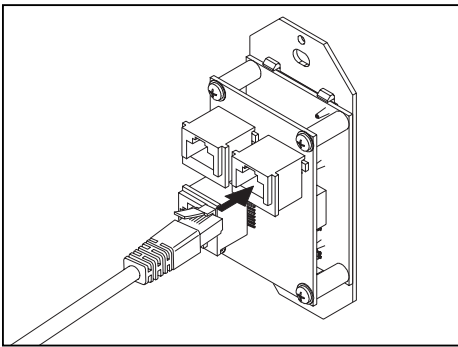
**Figure 31**

## CONNECTING THE SOLO™ AND SELECT™ MASTER KEYPADS TO THE HOME RUN OF FOUR-PAIR TWISTED CABLE

The home run of four-pair twisted cable is terminated with a male RJ-45 connector and plugged into the rear-panel jack labeled SYSTEM on the Solo™ and Select™ Master Keypad Module (see Figure 32).

**Figure 32**

## CONNECTING NUMERIC™ KEYPADS

Each Solo™ and Select™ Master Keypad Module can be mated with one optional Numeric™ Accessory Keypad Module using an included jumper cable (see Figure 33).

RJ-45 Connector for connection to the ZR-4630

RJ-45 Connector for connection to IR Sensors

IR SENSOR   SYSTEM

INPUT

RJ-45 Connector for connection to Numeric™ Accessory Keypad Module

ACCESSORY KEYPADS

OUTPUT

RJ-45 Connector for connection to Master Keypad Module

Included Jumper Cable

Solo™ Master Keypad Module

Numeric™ Accessory Keypad Module

**Figure 33**

39
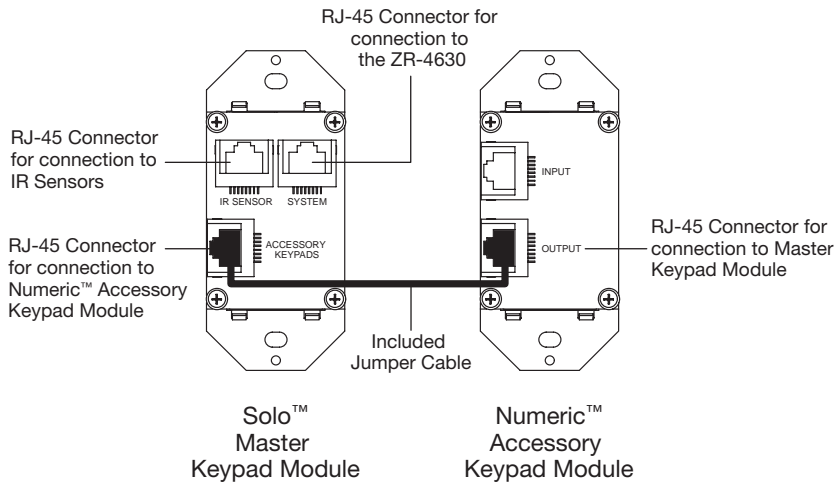
## CONNECTING IR SENSORS

An IR sensor can be connected to a Solo™ and Select™ Master Keypad Module in one of two ways, directly with a four-pair twisted cable (see Figure 34 and 35), or with a three-wire to RJ-45 adapter available from Niles for IR sensors installed with two-conductor shielded cable. (See Figure 36 and the Accessories Section of this manual.)

### Connecting a Sensor Using Four-Pair Twisted Cable

In Figure 34, one end of the four-pair twisted cable connects with bare wire to the IR sensor. The other end terminates with a male RJ-45 connector and plugs into the Solo™ and Select™ Master Keypad Module.
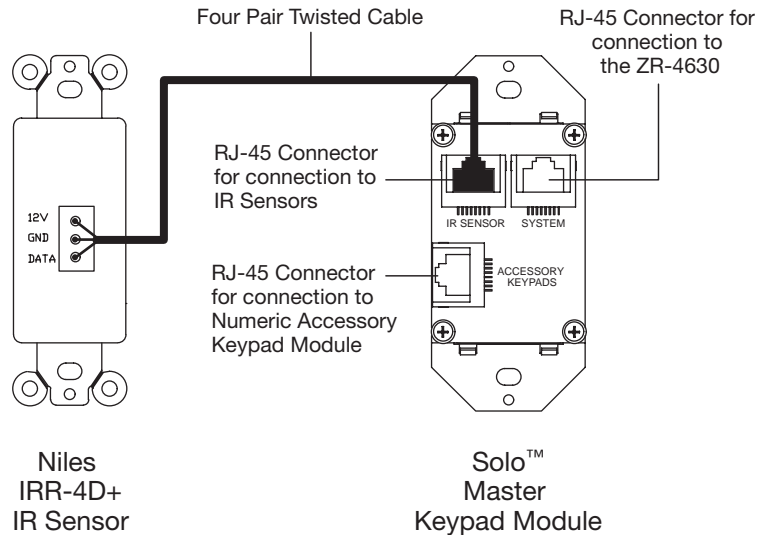


**Figure 34**

Figure 34 depicts the correct wires to use for connection to the IR sensor when using four-pair twisted cable terminated with an RJ-45 connecter at the Solo™ and Select™ Master Keypad Module.
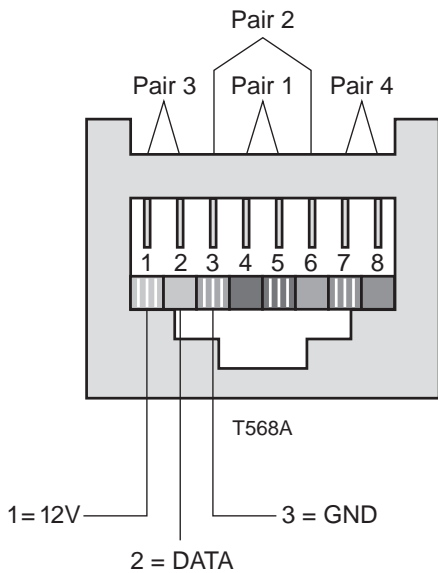


**Figure 35**
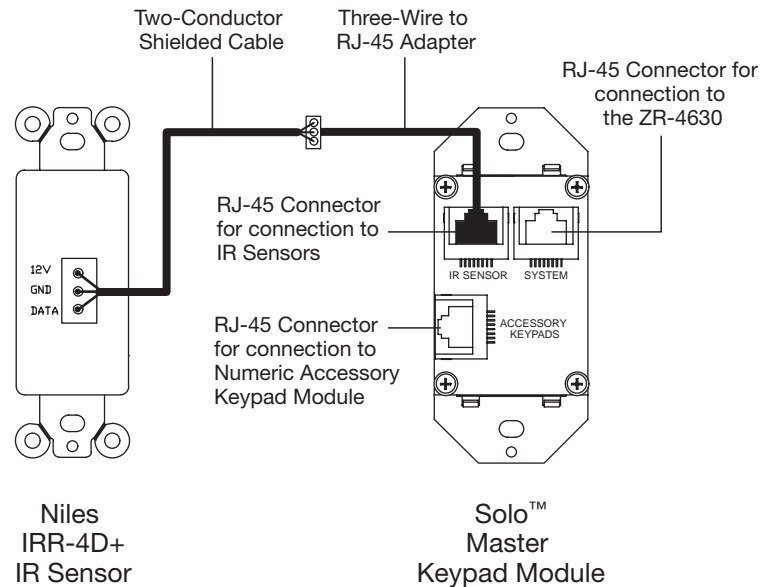


**Figure 36**

### Connecting a Sensor Installed with Two-Conductor Shielded Cable

An IR sensor installed with two-conductor shielded cable requires the Niles three wire to RJ-45 adapter (see Accessories) for proper connection to a Solo™ and Select™ Master Keypad Module (see Figure 36). The IR sensor connects to the two-conductor shielded cable with bare-wire, screwdown terminals. (Refer to the IR sensors Installation Guide for more information.) The two-conductor shielded cable then connects to the adapter's bare-wire, screwdown terminal, matching 12V, GND, and Data respectively.
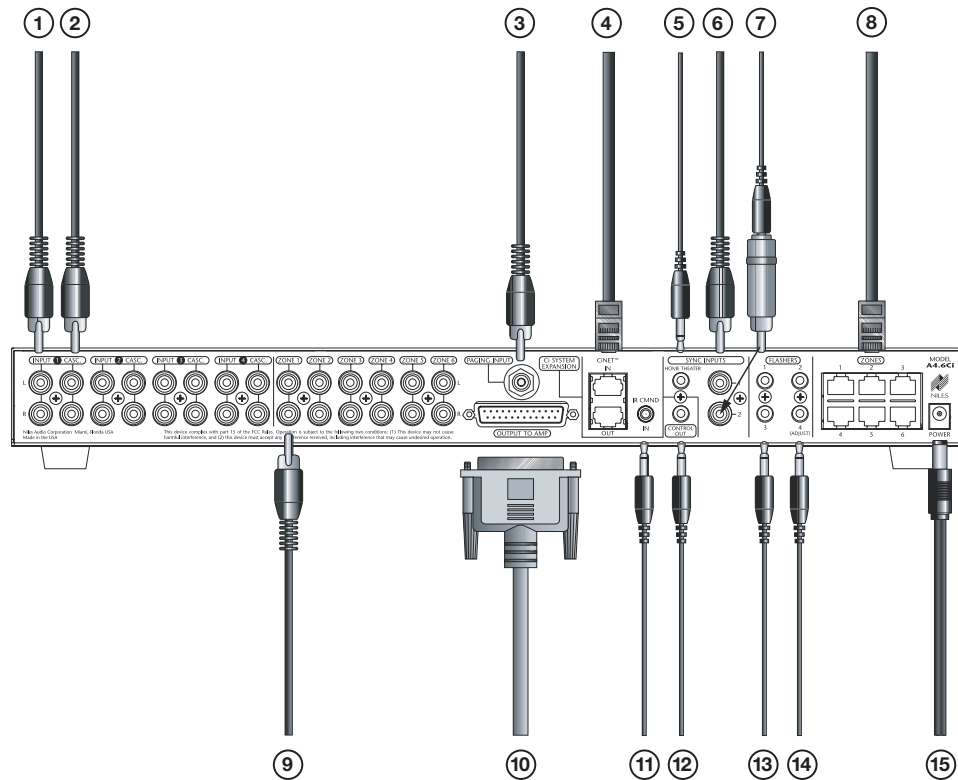
**Figure 37**

## SOURCE-COMPONENT AUDIO SIGNALS

① **Audio Output of Source Components to the A4.6Ci**
Male-to-male RCA audio cables connect the four external audio sources.

② **Buffered-Cascade Audio Output of Source Components to Slave A4.6Ci's or a Home Theater**
Male-to-male RCA audio cables connect Slave A4.6Ci's or the Home Theater.

## TELEPHONE PAGING

③ **Paging Output of Telephone System to A4.6Ci Page Input**
A male-to-male RCA audio cable connects the paging output of a telephone system to the A4.6Ci.

## SYSTEM EXPANSION

④ **System Expansion Input to System Expansion Output**
Four-pair twisted cable, terminated with male RJ-45 plugs, connects multiple A4.6Ci's using the System Expansion Input and Output terminals. Connections are made from the input of one of the A4.6Ci's to the output of another, and so on. (For more information on Terminating Four-Pair Twisted Cable, refer to page 39.)

## SOURCE-COMPONENT POWER AND HOME THEATER SYNCHRONIZATION SIGNALS

⑤ **12V Home Theater Sync to Home Theater Sync Input**
The 12V Home Theater sync signal connects with a mini-plug to the Home Theater sync input.

⑥ **Video Synchronization from a Source Component to an A4.6Ci Sync Input**
An RCA Y-adapter is used to split the video output of a source component for connection to one of the two source sync inputs of the A4.6Ci (1 or 2). One side of the RCA Y-adapter connects to the appropriate source sync input and the other side connects to the intended destination for the video signal (i.e., the video input of a TV, receiver, or RF modulator).

The need for an RCA Y-adapter can be avoided if your video source has two video outputs. One video output connects to a source sync input and the other to the intended destination of the video signal.

**Important Note:** Source sync inputs are designed with high-input impedances so as not to affect the quality of the video signal when using an RCA Y-adapter.

41

# CONNECTIONS

## HOME THEATER CONTROL SYSTEM

⑦ **Voltage Sync from a Source Component to an A4.6Ci Sync Input**

When obtaining a 12V sync signal from a source component (refer to the Source Power Synchronization section of this manual for more information), a Niles Accessory Cable (FG00724) connected to a Radio Shack 274-326 mini-plug to male RCA adapter provides proper connection to any of the three source sync Inputs.

## KEYPAD MODULES

⑧ **Keypads to Keypad Inputs for Zones 1-6**

Four-pair twisted cable, terminated with male RJ-45 plugs, connects the keypads to the zoned keypad inputs (for more information on Terminating Four-Pair Twisted Cable, refer to page 39).

## PREAMPLIFIER ZONE OUTPUTS

⑨ **Zones 1-6**

Male to male RCA audio cables connect Zone Outputs 1-6 to an external amplifier.

⑩ **Zones 1-6**

DB-25 Audio Cables (1-to-1 pin configuration) connect Zone Outputs 1-6 to a Niles multi-channel amplifier.

## HOME THEATER CONTROL SYSTEM

⑪ **IR Output of a Home Theater Control System to the IR In**

The mini-plug end of a Niles Accessory Cable (FG00724) connects a Home Theater control system to the IR input.

## 12V CONTROL SIGNALS

⑫ **12V Control Output to a Voltage Triggered Device**

The mini plug end of a Niles Accessory Cable (FG00724) connects the 12V control output to the trigger input of a voltage-activated device (i.e., Niles AC-3).

## IR FLASHERS

⑬ **Low-Output Flasher to the Flasher Outputs**

The mini-plug end of a Niles Low-Output MicroFlasher,™ Model IRC-2P (FG00726), connects into the Flasher Outputs 1-4. The Micro-Flasher portion of the IRC-2P is placed directly over the IR sensor of the corresponding source component (Source 1 for Flasher 1, Source 2 for Flasher 2, Source 3 for Flasher 3, Source 4 for Flasher 4) and adheres with the included peel-back tape.

⑭ **High Output Flasher to the Flasher Outputs**

The mini plug end of a Niles High-Output Flasher, Model IRC-1P (FG00932), connects to the Flasher Output 4 labeled ADJUST. The IRC-1P is strategically positioned to provide IR transmission to all source components and adheres with its included Velcro mounting system.

## DC POWER

⑮ **DC Power Adapter**

The 16V DC power adapter (included with the A4.6Ci) connects to the removable power-cord socket and to an AC power outlet.

### CONNECTING AN IR SENSOR FOR LOCAL SYSTEM CONTROL

IR Sensors installed in zones for hand-held IR remote control of the A4.6Ci and its connected source components can also be used to control local components (i.e., a TV, DSS, DVD, and a surround-sound system located in the master bedroom zone as shown in Figure 38).

The IR sensor connects normally to the Solo™ and Select™ Master Keypad to control the A4.6Ci and its connected source components. In addition, the IR sensor connects to a local IR repeating system (DATA and GND connections only) to provide control of local components.
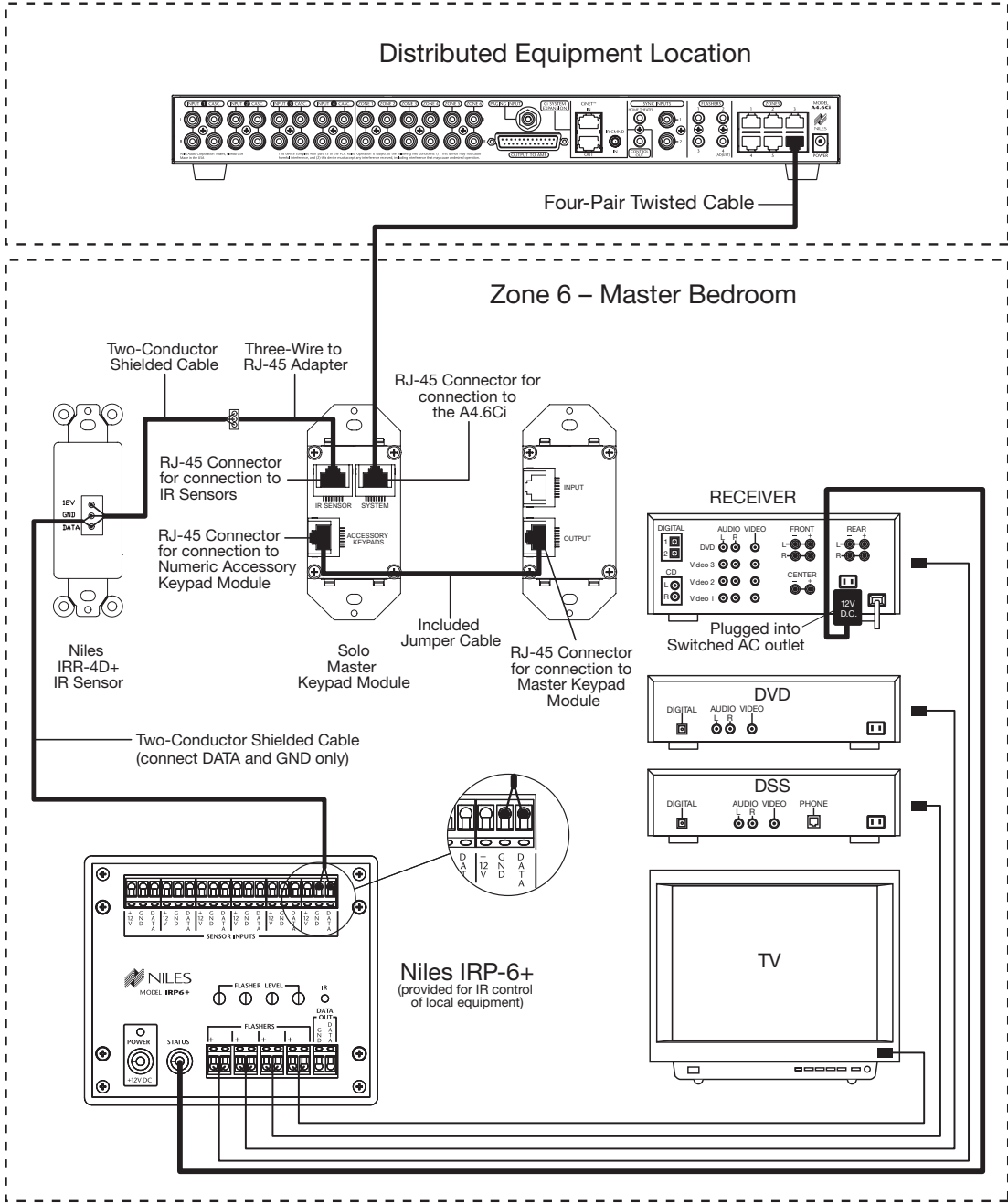


**Figure 38**

**CONNECTING AN A/B AMPLIFIER SWITCH FOR LOCAL SYSTEM SELECTION**

A Niles SPK-1 Voltage-Activated Speaker Level A/B Switcher connects to both the A4.6Ci and a local system to provide sound from each system to the same speakers located in a single zone. The local system only connects to the speakers when the local system is turned on. The Niles A4.6Ci connects to the speakers by default when the local system is off.

As shown in Figure 39, the zoned speaker output of the A4.6Ci connects to the "A" side of the SPK-1. The main speaker output of the local system connects to the "B" side of the SPK-1. In addition, a 12V DC power adapter (Niles FG00665) is plugged into a switched AC outlet of the local system to activate the SPK-1.
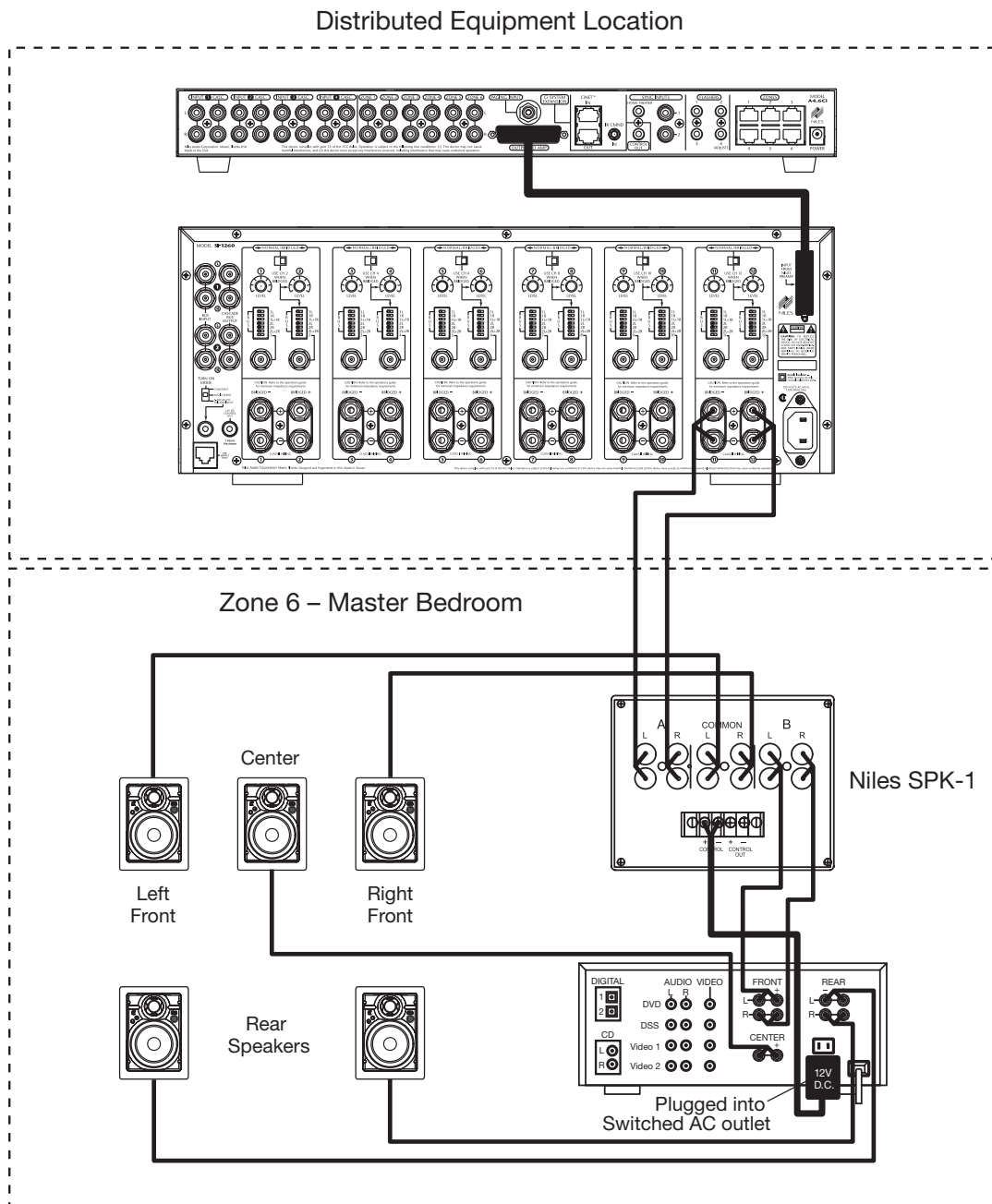


**Figure 39**

## PROGRAMMING OVERVIEW

### PROGRAMMING PANEL

IR commands needed for control of connected external source components are programmed into the A4.6Ci's program memory using the hidden programming controls on the front panel (see Figure 42).

Programming is accomplished by using the hidden panel's push buttons and LED prompts, and by sending commands from connected Niles Master Keypad and Accessory Keypad Modules, and IR commands from the remotes supplied with the source components (see Figure 41). A Niles hand-held R-4 Remote can be used instead of a connected Master Keypad Module (see Figure 42). For complete information on the A4.6Ci's step-by-step programming procedure, refer to the Programming Steps section of this manual.

Hidden Installer
Programming
Panel

Select™ Transport™ Numeric™
or Solo™

Source Components
IR Remote Control
(sold separately)

**Figure 41**

Hidden Installer
Programming Panel
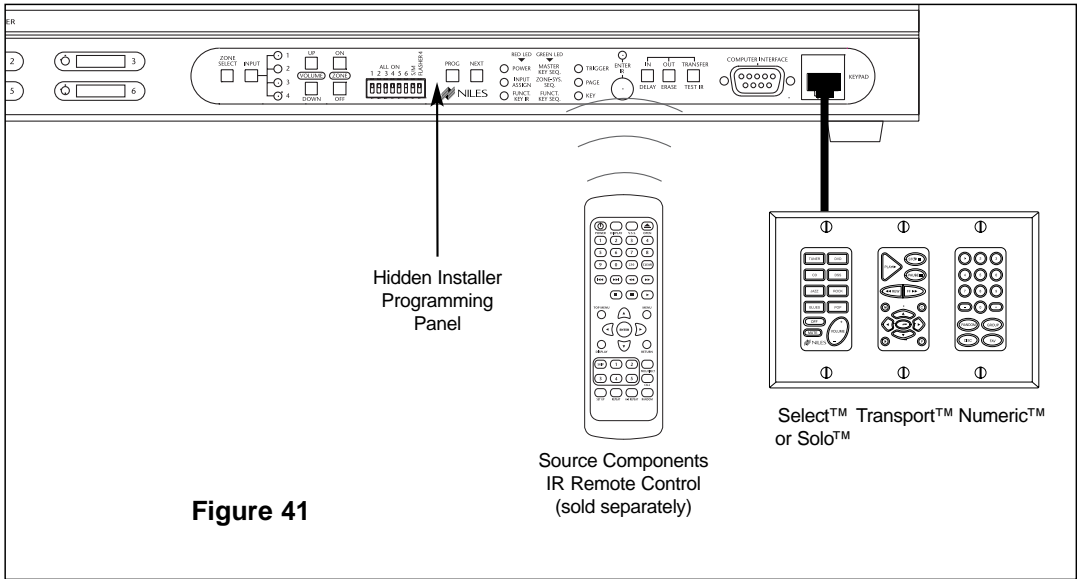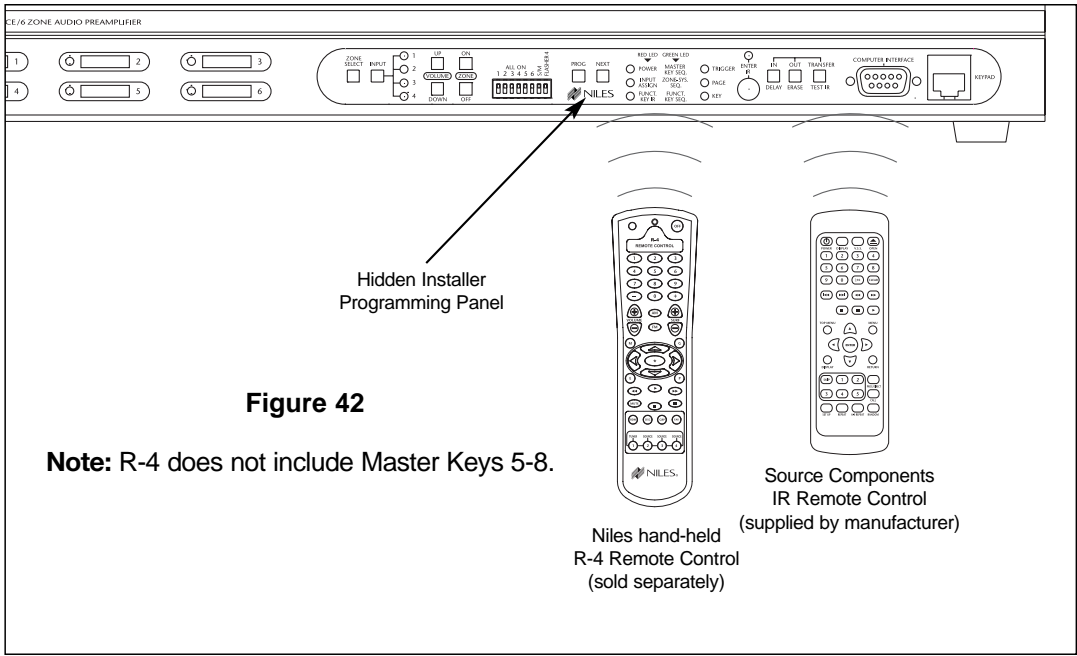
**Figure 42**

**Note:** R-4 does not include Master Keys 5-8.

Niles hand-held
R-4 Remote Control
(sold separately)

Source Components
IR Remote Control
(supplied by manufacturer)

## INSTALLATION AND PROGRAMMING DOCUMENTATION

### Why Document?

There are three important reasons why you should keep thorough documentation of the installation and the programming procedure:

• It enables you to program the system properly.  When using multiple preamplifiers or programming sequences, knowing where individual IR commands are programmed is critical. Precise documentation minimizes delays due to poor planning, and avoids duplication of effort.

• It creates a detailed record that will be invaluable for future upgrades and troubleshooting.

• It enables Niles Technical Support to assist you more efficiently.

### Documentation Overview

This section covers the various fill-in schematics and worksheets available to document quickly the basic architectural and programming information regarding the system you are installing. For specific information on actual connections and how to configure the system, see System Configurations.

The system documentation was designed to minimize your time investment, while still providing all the necessary information that will be required to design, install, and troubleshoot an A4.6Ci preamplifier. As you complete the various forms, you will find that the information is simply the normal questions you are required to ask when designing a typical distributed audio system.

The documentation sheets provided with this manual are divided into two categories: schematics and worksheets.

• **Schematics** keep a record of your system's architecture (Figures 43 and 44).
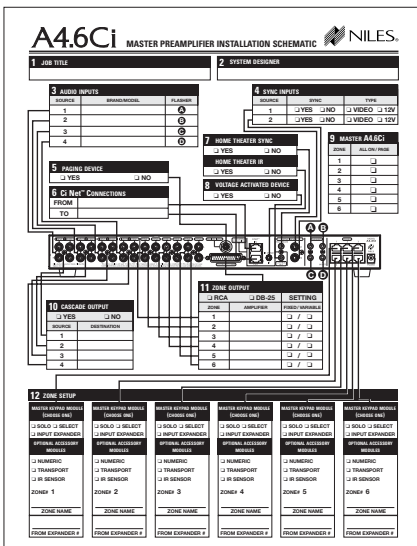


**Figure 43
Preamplifier Schematics**

Master Preamplifier Schematic
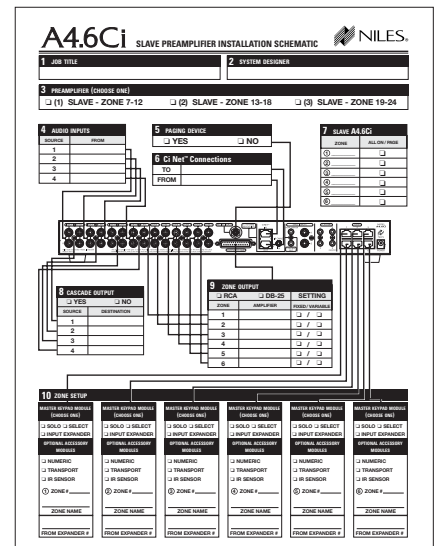
Slave Preamplifier Schematic

# PROGRAMMING OVERVIEW



**Figure 44
Expander Schematics**
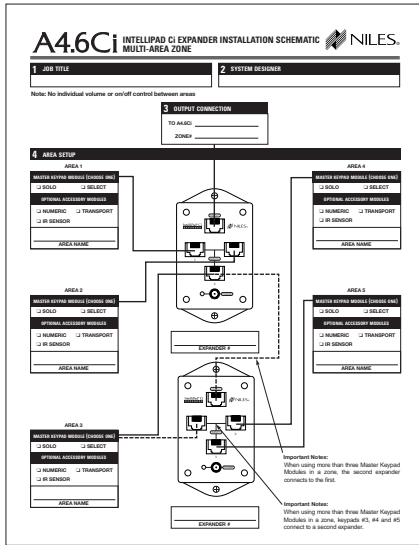
Multi-Area Zone Schematic                    Multi-Room Zone Schematic
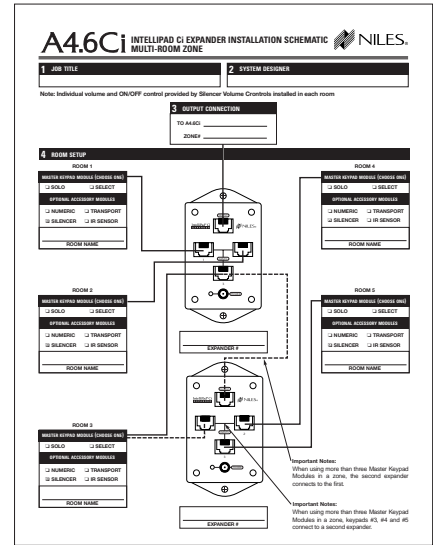
Each A4.6Ci has six zones to document. Fill out one Master Preamplifier Schematic for the Master A4.6Ci, and one Slave Preamplifier Schematic for each Slave A4.6Ci in the system. Doing so determines how many zones will be installed, the name of the room in a zone, and what keypads each room contains.

If you need expanders (required for multi-room and multi-area zones), use the Expander Schematics to keep a record of all the rooms in the system and their corresponding keypads.

Complete one Multi-Area Schematic per expanded zone that doesn't have individual volume or on/off control between areas.

Complete one Multi-Room Schematic per expanded zone in which silencers have been installed in all the rooms for individual on/off and volume control.

• **Worksheets** are for documenting your programming (Figures 45–50).



Source IR/Power Programming
and Master-Key Setup
**Figure 45 – Worksheet #1**



Function-Key IR Programming (Master A4.6Ci)
**Figure 46 – Worksheet #2**

# PROGRAMMING OVERVIEW

Function-Key IR Programming (Slave A4.6Ci)
**Figure 47– Worksheet #3**

Master-Key Ending Sequence
**Figure 48 – Worksheet #4**

Zone On/Off Sequence
and System On/Off Sequence
**Figure 49 – Worksheet #5**

Function-Key Sequence
**Figure 50 – Worksheet #6**

Worksheets keep a detailed record of where individual IR commands are programmed, which of these IR commands are used in sequences (along with their page and key address), and all pertinent information regarding the Master Keys, and the OFF Key.

# PROGRAMMING OVERVIEW

### SYSTEM-INSTALLATION SCHEMATICS

The first information to document is the makeup of your system. Establish how many zones are involved, and the number of preamplifiers in your system. Next, determine how many zones have more than one room, requiring the use of an expander. From this information, you will know which sheets to fill out and how many of each you will need. Use a pencil when completing the sheets. If you need additional sheets, make photocopies.

Following pages are detailed descriptions of the schematic sheets:

### Master Preamplifier Installation Schematic

If your system has only six zones and each zone has one room, you can document the necessary information in just one Preamp Schematic sheet (Figure 43). If your system has more than one A4.6Ci, use the Slave Preamplifier Installation Schematic for the Slave(s).

**1 JOB TITLE**

Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**3 AUDIO INPUTS**

| SOURCE | BRAND/MODEL | FLASHER |
|--------|-------------|---------|
| 1 | Denon / DVD 2800 | Ⓐ |
| 2 | | Ⓑ |
| 3 | | Ⓒ |
| 4 | | Ⓓ |

Your system can have up to four sources. Document their brand and model, listing them according to their flasher connections. The four flashers are already identified in the panel corresponding to A, B, C, and D, respectively.

**4 SYNC INPUTS**

| SOURCE | SYNC | TYPE |
|--------|------|------|
| 1 | ❏ YES ❏ NO | ❏ VIDEO ❏ 12V |
| 2 | ❏ YES ❏ NO | ❏ VIDEO ❏ 12V |

**Sync Inputs for Sources 1 and 2**
Syncing source 1? (YES/NO)
Syncing source 2? (YES/NO)

**If yes,**
What type of sync for source 1? (VIDEO/12V)
What type of sync for source 2? (VIDEO/12V)

**5 PAGING DEVICE**

| ❏ YES | ❏ NO |
|-------|------|

Paging Device? (YES/NO)

**6 Ci Net™ CONNECTIONS**

| FROM | |
|------|--|
| TO | |

**FROM/TO** If you are going to expand the system, document the Ci Net connection.

**7 HOME THEATER SYNC**

| ❏ YES | ❏ NO |
|-------|------|

**HOME THEATER IR**

| ❏ YES | ❏ NO |
|-------|------|

Do you have Home Theater sync? (YES/NO)

Is IR coming in from the Home Theater? (YES/NO)

**8 VOLTAGE ACTIVATED DEVICE**

| ❏ YES | ❏ NO |
|-------|------|

Are you triggering a voltage activated device? (YES/NO)

# PROGRAMMING OVERVIEW

**9 MASTER A4.6Ci**

| ZONE | ALL ON / PAGE |
|------|---------------|
| 1 | ❏ |
| 2 | ❏ |
| 3 | ❏ |
| 4 | ❏ |
| 5 | ❏ |
| 6 | ❏ |

DIP switches on the front panel determine which zones will be enabled to the
ALL-ON and PAGE features.

Check those that have been enabled to the ALL-ON/PAGE feature.

**10 CASCADE OUTPUT**

| ❏ YES | ❏ NO |
|-------|------|
| **SOURCE** | **DESTINATION** |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

Does your system include other preamps or a Home Theater? (YES/NO)

If yes, specify where the cascade output is going (for example, a Home Theater or Slave 1).

**11 ZONE OUTPUT**

| ❏ RCA | ❏ DB-25 | SETTING |
|-------|---------|---------|
| ZONE | AMPLIFIER | FIXED / VARIABLE |
| 1 | | ❏ / ❏ |
| 2 | | ❏ / ❏ |
| 3 | | ❏ / ❏ |
| 4 | | ❏ / ❏ |
| 5 | | ❏ / ❏ |
| 6 | | ❏ / ❏ |

Indicate if using either RCA or DB-25 to connect to the amplifiers

Then list the brand and model of the amplifier to which it is going.

**12 ZONE SETUP**

| MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) |
|---|---|---|---|---|---|
| ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT<br>❏ INPUT EXPANDER |
| OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES |
| ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR | ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR | ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR | ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR | ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR | ❏ NUMERIC<br>❏ TRANSPORT<br>❏ IR SENSOR |
| ZONE# 1 | ZONE# 2 | ZONE# 3 | ZONE# 4 | ZONE# 5 | ZONE# 6 |
| ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME |
| FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # |

**Keypad Input Information:**
- Check if a Master Key Module was installed (Solo™/Select™) or if zone has an expander (expanded zones have more than one keypad or more than one room).
- Indicate any optional accessory module used (Numeric™, Transport™, or IR sensor).
- Zones are pre-numbered for the Master preamp (1 through 6).
- Zone name
- If zone has an expander, indicate number. The expander should be numbered the same as the zone to which it is connected, since each zone has a unique number. (For example, Zone 6 would have Expander #6).
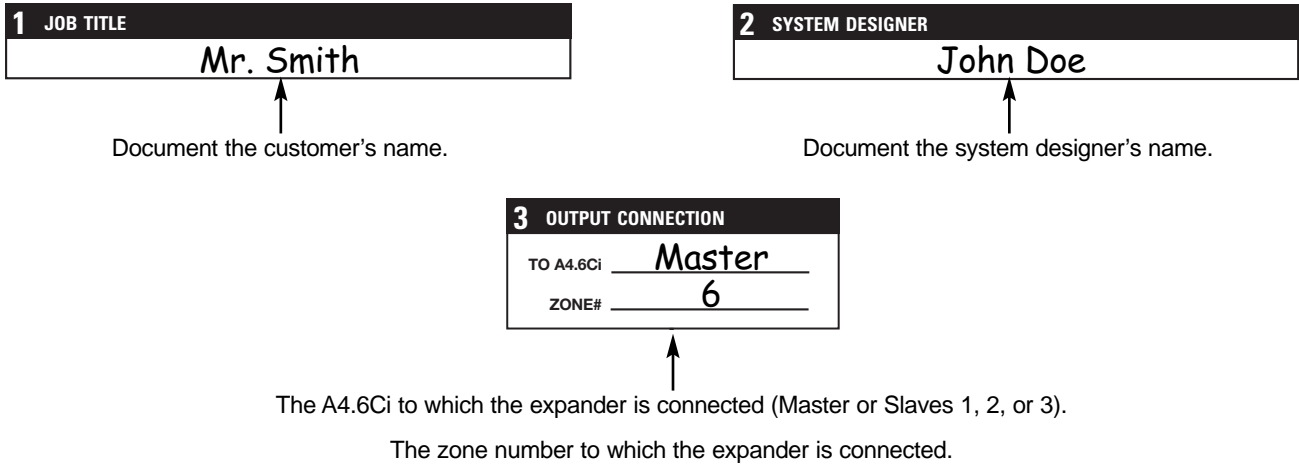
For zones that require more than three keypads, install two expanders. These become "A and B." (For example, two expanders in Zone 6 would be Expander 6A and Expander 6B).
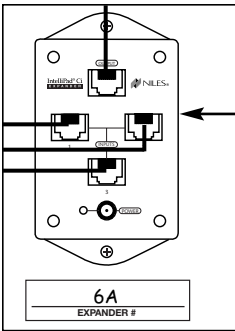
# PROGRAMMING OVERVIEW

### Expander Installation Schematic
If your system has zones that require more than one keypad, install expanders in those zones. The Expander Schematic sheet (Figure 44) enables you to document each of those additional keypads.

### Multi-Area Zone

**1 JOB TITLE**
Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**
John Doe

Document the system designer's name.

**3 OUTPUT CONNECTION**

TO A4.6Ci ___Master___

ZONE# ___6___

The A4.6Ci to which the expander is connected (Master or Slaves 1, 2, or 3).

The zone number to which the expander is connected.

**4 AREA SETUP**

**4A**
Assign the first expander the same number as the zone to which it connects, followed by "A" (for example, the expander for Zone 6 would be #6-A).

6A
EXPANDER #
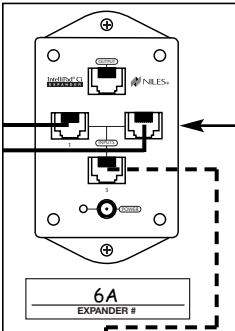
**4B**
If a second expander is required because the area needs more than three keypads, it becomes Expander "B" (for example, two expanders for Zone 6 would be #6-A and #6-B). With a second expander, the zone can have up to five keypads.

The top input of Expander (A) connects to the A4.6Ci keypad input. With a single expander connect keypads for Areas 1, 2, and 3 to the remaining inputs.

When a second expander is required, connect Expander (B) to the bottom input of Expander (A). Connect keypads for Areas 1 and 2 to Expander (A) and keypads for Areas 3, 4, and 5 to Expander (B).

6A
EXPANDER #

6B
EXPANDER #

**AREA 1**

| MASTER KEYPAD MODULE (CHOOSE ONE) | |
|---|---|
| ❏ SOLO | ❏ SELECT |
| **OPTIONAL ACCESSORY MODULES** | |
| ❏ NUMERIC | ❏ TRANSPORT |
| ❏ IR SENSOR | |

_____

**AREA NAME**

**4C**
**Keypad Input Information:**
If you have different keypads in the same zone, document individually, which keypads are installed in each area.

- Identify which Master Key Module is installed (Solo™ or Select™).

- Indicate any optional Accessory Module (Numeric™, Transport™ or IR sensor).

- Area Name
  Identify the area where the keypad is located (for example, left side of bed for Area 1 and right side of bed for Area 2).

# PROGRAMMING OVERVIEW

**Multi-Room Zone**

In a multi-room zone, the information to document in the Expander Schematic Multi-Room sheet (Figure 44) is the same as in a Multi-Area Zone. The only difference is that you need silencers in all rooms for individual volume control.

**1 JOB TITLE**

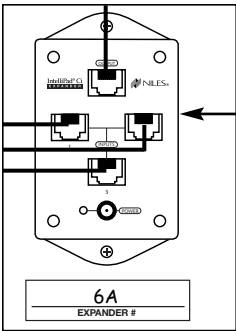Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**
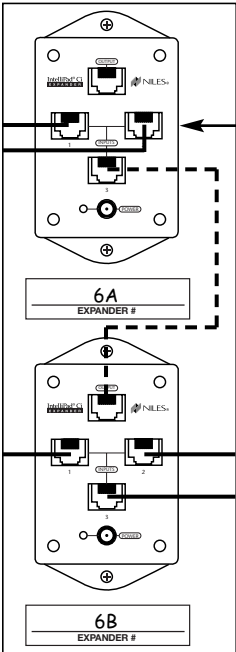
John Doe

Document the system designer's name.

**3 OUTPUT CONNECTION**

TO A4.6Ci  ___Master___

ZONE# ___6___

The A4.6Ci to which the expander is connected (Master or Slaves 1, 2, or 3).

The zone number to which the expander is connected.

**4 ROOM SETUP**

**4A**

Assign the first expander the same number as the zone to which it connects, followed by (A) (for example, the expander for Zone 6 would be #6-A).

6A
EXPANDER #

**ROOM 1**

| MASTER KEYPAD MODULE (CHOOSE ONE) | |
|---|---|
| ⊠ SOLO | ❏ SELECT |

| OPTIONAL ACCESSORY MODULES | |
|---|---|
| ⊠ NUMERIC | ❏ TRANSPORT |
| ⊠ SILENCER | ❏ IR SENSOR |

Master Bath
ROOM NAME

**4B**

If a second expander is required because the room needs more than three keypads, it becomes Expander (B) (for example, two expanders for Zone 6 would be #6-A and #6-B). With a second expander, the zone can have up to five keypads.

The top input of Expander (A) connects to the A4.6Ci keypad input. With a single Expander, connect keypads for Rooms 1, 2, and 3 to the remaining inputs.

When a second expander is required, connect Expander (B) to the bottom input of Expander (A). Connect keypads for Room 1 and 2 to Expander (A) and keypads for Room 3, 4, and 5 to Expander (B).

6A
EXPANDER #

6B
EXPANDER #

**4C**

**Keypad Input Information:**

If you have different keypads in the same zone, to document individually which keypads are installed in each room along with their Silencers.

• Identify which Master Key Module is installed (Solo™ or Select™).

• Indicate any optional Accessory Module (Numeric™, Transport™ or IR Sensor).

• Room Name
Identify the room where the keypad is located (for example, master bedroom for Room 1 and girl's bedroom for Room 2).

# PROGRAMMING OVERVIEW

## Slave Preamplifier Installation Schematic

After filling out the Master Preamp Schematic and any necessary Expander Schematics for the Master, you are ready for the Slave Preamp Schematic sheet (Figure 43) if the system has more than six zones. Fill out one sheet per Slave A4.6Ci.

**1 JOB TITLE**

Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**3 PREAMPLIFIER (CHOOSE ONE)**

❏ **(1) SLAVE - ZONE 7-12**     ❏ **(2) SLAVE - ZONE 13-18**     ❏ **(3) SLAVE - ZONE 19-24**

Identify if the sheet documents Slave 1, Slave 2, or Slave 3.

**4 AUDIO INPUTS**

| SOURCE | FROM |
|--------|------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

Document the origin of audio inputs for the four sources. For example, if this were Slave 2, Source 1 would come from Slave 1. If it were Slave 1, the source would come from the Master.

To ensure accuracy, check the information in this box against the information documented under Cascade Output (in box #10 for the Master Schematic sheet and in box #8 for the Slave Schematic sheet).

**5 PAGING DEVICE**

❏ **YES**          ❏ **NO**

Paging device? (YES/NO)

**6 Ci Net™ Connections**

| TO | |
|------|------|
| FROM | |

**TO** Identify any connections going to the Master preamp or to another Slave (CiNet output).

**FROM** If the slave you are documenting receives input from another slave, indicate this, as coming from Slave 2 or 3 (CiNet input).

To ensure accuracy, check the information in this box against the information documented under CiNet Connections in box #6 for any other Master and/or Slave Schematic sheets.

**7 SLAVE A4.6Ci**

| ZONE | ALL ON / PAGE |
|------|---------------|
| ① _____ | ❏ |
| ② _____ | ❏ |
| ③ _____ | ❏ |
| ④ _____ | ❏ |
| ⑤ _____ | ❏ |
| ⑥ _____ | ❏ |

Dip switches on the front panel determine which zones will be enabled to the ALL-ON and PAGE features.

• Check those that have been enabled to the ALL-ON/PAGE feature.

**8 CASCADE OUTPUT**

| ❏ YES | ❏ NO |
|---|---|
| SOURCE | DESTINATION |
| 1 | |
| 2 | |
| 3 | |
| 4 | |

This documents the audio output from the shared source components going to the next Slave or the Home Theater.
- Does your system include other preamps or a Home Theater? (YES/NO)

- If yes, specify where the cascade output is going (for example, a Home Theater or the next Slave preamp in the system).

To ensure accuracy, check the information in this box against the information documented under Cascade Input (box #4 for the Slave Schematic sheet).

Also note that the Home Theater is always the last to receive the shared audio signals in multi-zone systems.

**9 ZONE OUTPUT**

| ❏ RCA | ❏ DB-25 | SETTING |
|---|---|---|
| ZONE | AMPLIFIER | FIXED / VARIABLE |
| 1 | | ❏ / ❏ |
| 2 | | ❏ / ❏ |
| 3 | | ❏ / ❏ |
| 4 | | ❏ / ❏ |
| 5 | | ❏ / ❏ |
| 6 | | ❏ / ❏ |

- Indicate if using either RCA or DB-25 to connect to the amplifiers

- Then list the brand and model of the amplifier receiving the output.

**10 ZONE SETUP**

| MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) | MASTER KEYPAD MODULE (CHOOSE ONE) |
|---|---|---|---|---|---|
| ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER | ❏ SOLO ❏ SELECT ❏ INPUT EXPANDER |
| OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES | OPTIONAL ACCESSORY MODULES |
| ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR | ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR | ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR | ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR | ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR | ❏ NUMERIC ❏ TRANSPORT ❏ IR SENSOR |
| ① ZONE #_____ | ② ZONE #_____ | ③ ZONE #_____ | ④ ZONE #_____ | ⑤ ZONE #_____ | ⑥ ZONE #_____ |
| ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME | ZONE NAME |
| FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # | FROM EXPANDER # |

**Keypad Input Information:**
- Check if a Master Key Module was installed (Solo™/Select™) or if zone has an expander. (Expanded zones have more than one keypad or more than one room.)

- Indicate any optional accessory module used (Numeric,™ Transport,™ or IR sensor).

- Identify the zones according to the numbers that correspond to each Slave preamp (Slave 1: Zones 7-12; Slave 2: Zones 13-18; Slave 3: Zones 19-24).

- Zone Name

- If a zone has an expander, indicate its number. The expander should be numbered the same as the zone to which it is connected, since each zone has a unique number. (For example, Zone 16 would have Expander #16.)

For zones that require more than three keypads, install two expanders. These become "A and B." (For example, two expanders in Zone 16 would be Expander 16A and Expander 16B.)

**Note:** After you have completed each necessary Slave Schematic sheet, complete any additional Expander Schematic sheet your system requires for individual keypad documentation.

# PROGRAMMING OVERVIEW

**SYSTEM PROGRAMMING WORKSHEETS**

After documenting what is being installed (every keypad, every expander, every zone, every preamp), you can now document all IR programming used in the system. Following are detailed descriptions of the six Programming Worksheets.

**Worksheet #1, Source Power IR and Master Key Setup**

Worksheet #1 documents which source components need to have their power command programmed into the preamp. You can also identify which ones have a single power command, and which ones have discrete on/off commands.

| **1** JOB TITLE |
| --- |
| Mr. Smith |

Document the customer's name.

| **2** SYSTEM DESIGNER |
| --- |
| John Doe |

Document the system designer's name.

| **3** PROGRAM SOURCE COMPONENT POWER — MASTER A4.6Ci |
| --- |

| **SOURCE 1** BRAND: | MODEL: |
| --- | --- |
| **COMPONENT SYNC** | **POWER PROGRAMMING** |
| ❏ Yes    ❏ No | If Yes, SYNC TYPE: ❏ Video    ❏ 12V | ❏ Single "Power" IR Command<br>❏ Two Separate ON and OFF IR Commands<br>❏ Latching Power |

- SOURCE 1 and SOURCE 2
  Transfer the information in box 3 and box 4 of the Master Preamp Schematic to identify the brand and model of each source, then indicate if the components have sync (yes/no), and if yes, the sync type (video/12V).

Power programming: Check if single "power" IR command, two separate ON/OFF IR commands, or latching power

- SOURCE 3 and SOURCE 4
  Transfer the information in box 3 and box 4 of the Master Preamp Schematic to identify the brand and model of each source, then indicate if the components have either two separate ON/OFF IR commands or latching power.

Power programming: Check if two separate ON/OFF IR commands or latching power

| **4** LABEL AND ASSIGN INPUTS TO MASTER KEYS — ALL MASTER & SLAVE A4.6Ci's |
| --- |

| **MASTER KEY 1**    MASTER KEY LABEL: _____ | **MASTER KEY 2**    MASTER KEY LABEL: _____ |
| --- | --- |
| **ASSIGNED SOURCE INPUT:** ❏ 1  ❏ 2  ❏ 3  ❏ 4 | **ASSIGNED SOURCE INPUT:** ❏ 1  ❏ 2  ❏ 3  ❏ 4 |

Label and assign inputs to Master Keys 1-8
- Label each Master Key (CD, Tuner, DVD, etc.)

- Check the assigned input number (Inputs 1-4)
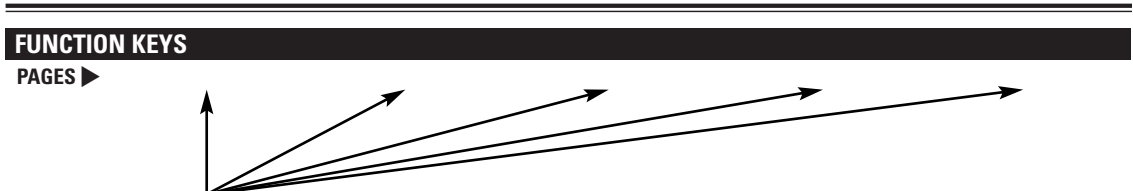
# PROGRAMMING OVERVIEW

### Worksheets #2 and #3, Function-Keys Programming Worksheets
Worksheets #2 and #3 document the IR commands stored in each of the available function keys for all 10 Pages (i.e., eight Master Key Pages, the Library page, and the Default Page). Note that the worksheet lists all available Master Keys for the Solo™ and Select™ modules, and all available function keys for the Numeric™ and Transport™ accessory modules.

You will need a worksheet for each A4.6Ci in your system. Although Worksheet #2 is for the Master, exclusively, make as many copies of Worksheet #3 as needed, one for each Slave.

### Worksheet #2, Master A4.6Ci Function-Keys Planning Worksheet
Worksheet #2 (Figure 46) documents the IR commands programmed into the Master A4.6Ci. These commands control the components and build sequences (regardless of whether the sequences will be used to operate the sources, in the system On/Off sequence, or in any of the zone On/Off sequences for the Master A4.6Ci).

**1  JOB TITLE**
Mr. Smith

Document the customer's name.

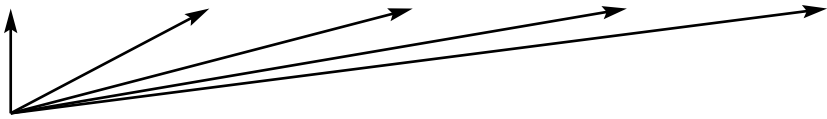**2  SYSTEM DESIGNER**
John Doe

Document the system designer's name.

**FUNCTION KEYS**
PAGES ▶

Label all Master Key Pages (1 - 8) as assigned in Box #4 for Worksheet 1.

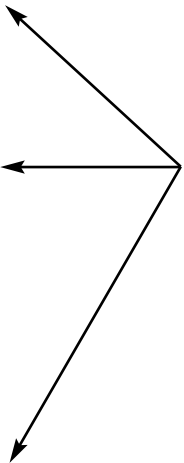**FUNCTION KEYS**
PAGES ▶
KEYS ▼          1

| | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |

Document the IR command stored in every Function Key in the column that corresponds to the appropriate Master Key Page, as well as the Default and Library pages.

| | |
|---|---|
| * | |
| AM | |
| FM | |
| SURF + | |
| SURF - | |

**Important:** Use the Volume + and Volume – keys to program the SURF + and SURF – Keys when programming with a keypad.

## PROGRAMMING OVERVIEW

**Worksheet #3, Slave A4.6Ci Function-Keys Planning Worksheet**

Worksheet #3 (Figure 47) documents IR commands programmed into the Slave A4.6Ci's. Because any IR command programmed into a Slave is transparent to the system during normal operation, these commands cannot be used to operate the sources. The IR commands documented in Worksheet #3 are to be used in the zone On/Off sequences for their respective Slave A4.6Ci.

**1 JOB TITLE**

Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**FUNCTION KEYS**

PAGES ▶

Label all Master Key Pages (1 - 8) as assigned in box #4 for Worksheet 1.

**FUNCTION KEYS**

PAGES ▶

KEYS ▼          1

| | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 0 | |
| - | |
| + | |
| RANDOM | |
| GROUP | |

Document the IR commands stored in that function key below the column that corresponds to the appropriate Master Key Page, as well as the Default and Library pages.

# PROGRAMMING OVERVIEW

**Worksheet #4, Master-Key Sequence Programming**

Worksheet #4 documents the Master Key Sequences that will be performed whenever a Master Key is pressed. Indicate each step of the sequences, identifying where the IR commands were programmed by using their page and key address.

The only Master Key Ending Sequences that can be built are for the Master A4.6, and you may have as many as eight. Copy the worksheet as needed.

**1 JOB TITLE**

Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**MASTER KEY 1**

| STEP | DESCRIPTION | PAGE | KEY |
|------|-------------|------|-----|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |

The steps in the Master Key Ending Sequence (for Master Keys 1-8):
• Describe the IR commands, or indicate if there are delays.

• Page and key address where the IR commands are stored.

# PROGRAMMING OVERVIEW

**Worksheet #5, Zone On/Off and System On/Off Sequence Programming**

Worksheet #5 documents the steps of the sequences that occur whenever a zone first turns on and when the zone turns off. Identify where the IR commands were programmed by using their page and key address. Copy the worksheet as needed to document zone sequences for the Master A4.6Ci and all the Slaves in your system.

It also documents the steps of the sequences that occur whenever the system turns on and when it turns off. The System On/Off Sequence is controlled by the Master A4.6Ci only.

**1  JOB TITLE**

Mr. Smith

Document the customer's name.

**2  SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**3  (CHOOSE ONE) ▢ MASTER   ▢ SLAVE 1   ▢ SLAVE 2   ▢ SLAVE 3       ZONE #**

**3A**
• Check a box to indicate if it is the Master or Slaves 1-3.
• Zone number

**3B**

| ZONE ON SEQUENCE | | | | ZONE OFF SEQUENCE | | | |
|---|---|---|---|---|---|---|---|
| STEP | DESCRIPTION | PAGE | KEY | STEP | DESCRIPTION | PAGE | KEY |
| 1 | | | | 1 | | | |
| 2 | | | | 2 | | | |
| 3 | | | | 3 | | | |
| 4 | | | | 4 | | | |
| 5 | | | | 5 | | | |

The steps in the Zone On and Zone Off sequences:
• Describe the IR commands, or indicate if there are delays.

• Page and key address where the IR commands are stored.

**4  ⊠ MASTER (THE SYSTEM ON/OFF SEQUENCE IS PROGRAMMABLE FOR THE MASTER A4.6CI ONLY)**

| SYSTEM ON SEQUENCE | | | | SYSTEM OFF SEQUENCE | | | |
|---|---|---|---|---|---|---|---|
| STEP | DESCRIPTION | PAGE | KEY | STEP | DESCRIPTION | PAGE | KEY |
| 1 | | | | 1 | | | |
| 2 | | | | 2 | | | |
| 3 | | | | 3 | | | |
| 4 | | | | 4 | | | |
| 5 | | | | 5 | | | |

The steps in the System On and System Off sequences:
• Describe the IR commands, or indicate if there are delays.

• Page and key address where the IR commands are stored.

# PROGRAMMING OVERVIEW

**Worksheet #6, Function-Key Sequence Programming**

Worksheet #6 documents the steps of the sequences that have been programmed into any of the available Function Keys for the Master A4.6Ci only.

Identify where the IR commands were programmed by using their page and key address. Copy the worksheet as needed to document all Function Key sequences.

Please note that if a Function Key has an IR command programmed and you program a sequence on that same Function Key, the IR command is not erased. It is, however, overridden by the sequence, so the sequence only gets issued whenever that key is pressed.

**1 JOB TITLE**

Mr. Smith

Document the customer's name.

**2 SYSTEM DESIGNER**

John Doe

Document the system designer's name.

**3 FUNCTION KEY SEQUENCES**

**3A**

| TRIGGER PAGE | TRIGGER KEY |
|---|---|

Indicate the trigger page and the trigger key. (The Trigger Key is the Function Key that will initiate the sequence when pressed. The Trigger Page is the Master Key page to which you need to be selected for that specific sequence to occur.)

**3B**

| STEP | DESCRIPTION | PAGE | KEY |
|------|-------------|------|-----|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |

The steps in the Function Key Sequence
- Describe the IR commands, or indicate if there are delays.
- Page and Key Address where the IR commands are stored.

## PROGRAMMING OVERVIEW

### PROGRAMMING A LEARNING REMOTE FOR ZONE OPERATION USING KEYPAD MODULES

Learning remote controls can be taught the IR commands to provide individual zone operation. These IR commands operate the A4.6Ci and its associated source components from any zone equipped with an IR sensor.

**Important Note:** IR sensors cannot operate a zone when used alone. They must be installed and connected to a Solo™ or Select™ Master Keypad Module.

The commands you will teach the learning remote are stored in the following buttons:

**Master Keys 1-8**. These activate the system, turn the zones on, and select the desired source.

**Function Keys** to issue the IR commands for each of the individual source components.



**Figure 51**

IR Learning Remote

Select™ Transport™ Numeric™ or Solo™

**Volume** and **Mute Keys** to control the volume in a zone.

The **OFF Key** to turn off the zones.

**Step 1.** Connect a flasher to any of the four flasher outputs.

**Step 2.** Connect a keypad to the preamp's front panel.

**Step 3.** Press and hold the TEST IR button. The Page LED and the Key LED blink RED to indicate you are in the teaching mode.

**Step 4.** Press the Function Key or Master Key that you are going to teach. It is important to note the following:
   1. Tapping a Master Key sends one command
   2. Pressing and holding a Master Key sends a different command
   3. Continuous commands need to be pressed for one second or according to what the manufacturer's manual specifies for that command.

**Step 5.** Once the key is pressed, the IR command associated with that key is issued via all four flashers. Flasher #4 can issue the command at a higher level.

The ENTER IR LED may flicker, blink, or be intermittently solid GREEN to reflect real-time IR activity whenever outgoing IR commands are issued.

**Step 6.** Tap the TEST IR button to exit after all the necessary IR commands have been taught.

**PROGRAMMING A LEARNING REMOTE FOR ZONE OPERATION USING THE NILES R-4 REMOTE**
Learning remote controls can be taught the IR commands of the hand-held Niles R-4 Remote to provide individual zone operation. These IR commands operate the A4.6Ci and its associated source components from any zone equipped with an IR sensor.

**Important Note:** IR sensors cannot operate a zone when used alone. They must be installed and connected to a Solo™ or Select™ Master Keypad Module.

The commands you will teach from the Niles R-4 Remote to the learning remote are stored in the following buttons:

**Source Buttons: Tuner, 2, 3, and 4.** These activate the system, turn the zones on, and select the desired source. The Tuner button is equivalent to Master Key #1.

**Function Buttons** to issue the IR commands for each of the individual source components.

**Volume and Mute buttons** to control the volume in a zone.

The **OFF Button** to turn off the zones.

To teach these commands, set the learning remote that you will use in the zone, to the learning mode, choose the appropriate key on the learning remote, and then issue the appropriate command from the Niles R-4 Remote. Repeat these steps for the remaining commands you wish to use.

To test the commands, set the Niles remote aside, and try the commands on your learning remote. If they were captured correctly, you will be operating the system and all the source components identically to the Niles R-4 Remote.

Learning
Remote Control

Niles R-4
Remote

**Figure 52**

**PROGRAMMING A HOME THEATER REMOTE TO OPERATE SOURCE COMPONENTS SHARED WITH AN A4.6Ci.**
A learning remote control operating a Home Theater system can be programmed to operate source components shared with the A4.6Ci (refer to System Configurations #2 and #3).

The learning remote control may be programmed with the source component's factory IR commands using the A4.6Ci's IR repeating feature (see Method #1), or with the Niles commands (see Methods #2 & #3).

## Method #1 – Controlling Shared Source Components with IR Repeating and 12V Home Theater Status

When using IR repeating, IR programming for the source components can be accomplished by programming the actual IR commands from the source component's included remote control into the Home Theater learning remote control. An IR output of the IR repeating or control system for the Home Theater is connected to the IR input of the Master A4.6Ci. All the IR commands sent from the home theater are then passed through to all IR flashers connected to the A4.6Ci for control of source components.

**Important Note:** If you have source components that require an IR command to be turned ON/OFF and they are not provided with a separate ON and a separate OFF IR command from their included remote controls, or if you have two or more shared source components that are an identical brand and model, refer to Method #2.

All the IR command programming accomplished into the Home Theater learning remote control is done in the standard way using the actual remote controls for the shared source components, with **one** exception. The OFF IR command for the shared source components is not taught to the learning remote operating the Home Theater. Only the ON IR commands are taught for the shared source components turned ON and OFF via IR commands. The OFF IR commands for the shared source components are programmed into the A4.6Ci, which is responsible for turning these components OFF when all A4.6Ci zones and the Home Theater are OFF.

Method #1 requires a 12V DC system ON/OFF status signal provided from the Home Theater system to the Home Theater sync input of the Master A4.6Ci. This allows the A4.6Ci to "know" whether the Home Theater is actually ON or OFF, and to provide the source components' OFF commands at the appropriate time.

The IR programming for the actual Home Theater receiver/processor is not affected when sharing source components using this method and is done in conjunction with programming described.

## Method #2 – Controlling Shared Source Components with Niles R-4 Commands and 12V Home Theater Status

A second method of programming a Home Theater remote control is available when the shared source components are identical and/or they have a single power ON/OFF IR command. With this method, you teach the Niles Control IR commands to the Home Theater learning remote, rather than the IR commands from the remote controls included with the shared source components.

You teach the Home Theater learning remote control the IR commands equivalent to Master Keys 1-8 and all other commands (excluding Volume +, Volume –, Mute, and OFF). These IR commands are taught using the same steps used for teaching a learning remote the Niles IR commands for zone operation.

Sending a Niles Master Key IR command from the Home Theater tells the A4.6Ci the Home Theater is turning on and which source it is selecting. Synchronized source components corresponding to the source button pressed are then turned ON, if not already ON. Finally, the A4.6Ci issues the sequence that is programmed for that source component.

After the Master A4.6Ci receives a Master Key IR command and it knows which source is selected, it will then issue the programmed IR commands for that source component when function key IR commands are received from the Home Theater.

Identical shared source components are operated individually using this method via the IR routing feature of the A4.6Ci (refer to Identical Source Components in the Operational Overview Section).

Method #2 requires a 12V DC system ON/OFF status signal provided from the Home Theater system to the Home Theater sync input of the Master A4.6Ci. This allows the A4.6Ci to "know" whether the Home Theater is actually ON or OFF, and to provide the source components OFF commands at the appropriate time.

The IR programming for the actual Home Theater receiver/processor is not affected when sharing source components with this method and is done in conjunction with programming described.

# PROGRAMMING OVERVIEW

**Important Note:** There is no need to teach the Niles OFF command to the Home Theater learning remote control when using Method #2. As in Method #1, when the Home Theater turns off, the 12V signal is removed from the A4.6Ci and it now "knows" that the Home Theater turned off. It will then check if there are any other zones on the A4.6Ci before it turns off the shared source components.

**Method #3 – Controlling Shared Source Components with Niles IR Commands and without 12V Home Theater Status**

A third method of programming is available in situations where a 12V DC status signal is not available from the Home Theater. With this method you must teach some of the Niles IR commands to the home theater learning remote. These IR commands are taught using the same steps used for teaching a learning remote the Niles IR commands for zone operation.

The minimum requirement is to program the learning remote with Niles commands from Master Keys 1-8 and the OFF Button IR commands. Whenever the Master A4.6Ci receives a source-button IR command from the Home Theater, it will turn on the source component, if needed, and it will also know that the Home Theater zone is turning on and what source component is selected. Whenever the Master A4.6Ci receives an OFF button IR command from the Home Theater, it will know that the Home Theater is turning OFF.

To operate the shared source components, follow the criteria specified in Method 1 and Method 2, to select the most appropriate method of operation for your system. You can program the Home Theater's learning remote with the components' IR commands, or with Niles function buttons commands when using this method.

**Important Note:** You must teach the Niles OFF IR command to the Home Theater learning remote control and issue it every time you turn the Home Theater off when using Method #3. When the OFF IR command is received by the A4.6Ci, it "knows" that the Home Theater turned off. It will then check if there are any other zones on the A4.6Ci before it turns off the shared source components.

# INSTALLATION SETTINGS

## SETTING ALL ON/PAGE MODE
There are six All ON/PAGE switches located on the hidden programming panel of the A4.6Ci. Each of the A4.6Ci's zones has a corresponding numbered switch (see Figure 40).

The switches enable (up) or disable (down) the individual zones from responding to ALL ON commands and incoming audio pages.
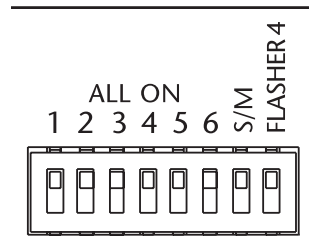


**Figure 40**

## SETTING MASTER/SLAVE MODE
The factory default mode of the A4.6Ci MultiZone Preamplifier is "Master," but it also can be set to function as one of three "Slaves" in expanded systems (refer to System Configuration 2). Changing the mode of any unit is accomplished using the S/M switch on the hidden programming panel of the A4.6Ci.

The up position is the Master mode; the down position is the Slave mode (see Figure 40).

## SETTING FLASHER #4 OUTPUT MODE
Flasher #4 is adjustable between a low-output mode designed for use with Niles IRC-2P MicroFlashers and a high-output mode designed for use with the Niles IRC-1P Flooding Flasher. The factory default setting is low-output mode.

The up position is the high-output mode; the down position is the low output mode (see Figure 40).

## INSTALLING ZONE LABELS
Each A4.6Ci is included with pre-printed zone/room labels that are designed to be placed in the zone label slots to identify the names of each of six zones. To install these labels follow the steps below:

**1.** Remove the label chosen for Zone 1 from the included room/zone labels.

**2.** Affix the label in Zone Label Slot #1.

**3.** Repeat steps 1 and 2 for Zones 2 through 6.

## VOLUME SETTINGS
The A4.6Ci has three useful volume settings:

### Maximum Turn ON and Source Change Volume Level
Maximum Turn ON and Source Change Volume prevents a zone from playing too loudly when it is first turned on or if the zone changes the currently selected source.

When a zone is turned ON individually, it will always turn ON to its last volume setting unless the zone's last volume setting is greater than the factory set Maximum Turn ON and Source Change Volume. When greater, the zone will turn ON to the Maximum Turn ON and Source Change Volume level set by the factory in the A4.6Ci.

When a zone selects a new source, the volume setting does not change unless the zone's current volume setting is greater than the Maximum Turn ON and Source Change Volume setting. When greater, the zone will change to the Maximum Turn ON and Source Change Volume level set by the factory in the A4.6Ci.

The Maximum Turn ON and Source Change Volume is adjustable individually for each of the six zones using A4.6Ci Windows configuration software.

# INSTALLATION SETTINGS

**ALL ON Volume Level**
When a system-wide ON command is issued, zones that are turned OFF turn ON to the ALL ON volume level set by the factory in the A4.6Ci. (Volume levels in zones that are already turned ON do not change during a system wide ON command.) The factory level for ALL ON is a relatively low volume level. It can be adjusted individually for each zone using the acoustic setting mode detailed in this section of the manual.

The All on volume level is also adjustable individually for each of the six zones using A4.6Ci Windows configuration software.

**Page Volume Level**
When a Page occurs, all zones produce the page at the page volume level set by the factory in the A4.6Ci. The factory default value for paging is a medium volume level.

The page volume Level is adjustable individually for each of the six zones using A4.6Ci Windows configuration software.

**INSTALLER SETTING MODE**
The installer setting mode is provided for initial set-up. You enter this mode when you press and hold the ZONE SELECT button.

Once in the installer setting mode, you can perform three functions:

- Manual operation of individual zones.
- Preamplifier output mode setting.
- Acoustic adjustments.

**MANUAL OPERATION OF INDIVIDUAL ZONES**
The A4.6Ci can be operated manually from the front panel to test the preamplifier if a zone suddenly stops playing, or if it doesn't activate after the system is installed. Because they are not meant for the end user, all the buttons used for manual operation of the A4.6Ci are hidden behind a removable cover.

Generally, four variables will cause system activation problems: the keypads, the IR sensor, the four-pair twisted wire, or the A4.6Ci itself. If you use the hidden controls to operate the A4.6Ci, you can select a zone and a source, and operate volume up/down. If you now have music in that zone, you've just narrowed the problem to the wire, the keypad, or the IR sensor.

While in the installer setting mode, installers can control the A4.6Ci to turn zones ON or OFF, to select input, and to control individual UP or DOWN volume in each zone. The keypads are disabled for normal operation while in this mode, so no IR can be triggered from the rooms. IR sensors are disabled as well.

## To Turn a Zone ON/OFF

**Step 1.** Press and hold the ZONE SELECT button. Zone #1 LED blinks GREEN.

**Step 2.** If Zone 1 is not the zone you wish to activate, continue to tap ZONE SELECT until the LED for the desired zone starts blinking.

**Step 3.** Press the ON button to turn the zone ON. The zone turns on to Input #1 by default, indicated by Input LED #1 turning ON.

**Step 4.** Press the OFF button to turn the zone OFF.

## To Change an Input
When you turn ON a zone, it turns on to Input #1 (factory default).

**Step 1.** To change that input, tap the INPUT SELECT button once.
The LED for Input #1 turns off and the LED for Input #2 turns on.

**Step 2.** Tap the INPUT SELECT button again until you reach the desired input.
After reaching Input #4, if you press INPUT SELECT one more time, it starts again at #1.

## To Adjust Volume

**Step 1.** Once a zone is ON, press the Volume Up or Volume Down buttons to change the volume level.

## To Exit Manual Operation

**Step 1.** Press the OFF button to turn the zone OFF. The LED for the last zone ON blinks GREEN.

**Step 2.** Press the Program button to exit Manual Operation Mode.

## PREAMPLIFIER OUTPUT MODE SETTING
The A4.6Ci is set by the factory to the variable-output mode for use with a single room in a zone. You change it to the fixed mode when using Silencers in a zone with multiple rooms.

**Step 1.** Press and hold the ZONE SELECT button. All zones are OFF. Zone #1 LED blinks GREEN (will always start with Zone 1 by default). The LEDs for the remaining five zones are off.

**Step 2.** If Zone 1 is not the zone which you wish to change modes, for continue to tap ZONE SELECT until the LED for the desired zone starts blinking.

**Step 3.** Press the ON button to turn the zone ON. The Power LED indicates the current preamplifier output mode (GREEN for Variable and RED for Fixed).

**Step 4.** Press the Next Button to toggle the selected zone to the desired mode (fixed mode is chosen when multiple rooms are included in a zone installed with silencers).

**Step 5.** Press the OFF Button to turn the zone OFF. The LED for the last zone ON blinks GREEN.

**Step 6.** To change settings for another zone, tap the ZONE SELECT until the LED for the desired zone starts blinking.

**Step 7.** Follow steps 3 - 6 for all zones requiring acoustic adjustment.

## To exit Preamplifier Output Mode Setting

**Step 1.** Press the OFF button to turn the zone OFF. The LED for the last zone ON blinks GREEN.

**Step 2.** Press the Program button to exit Preamplifier Output Mode Setting.

## ACOUSTIC ADJUSTMENTS
To perform acoustic adjustment of the following: All On Volume (for zones set to Variable Mode), Fixed Volume (for zones set to Fixed Mode), Bass, Treble, Balance, Loudness, Flat.

**Step 1.** Press and hold the ZONE SELECT button. All zones are OFF. Zone #1 LED blinks GREEN (will always start with zone 1 by default). The LEDs for the remaining five zones are off.

**Step 2.** If Zone 1 is not the zone you wish to perform acoustic adjustments for, continue to tap ZONE SELECT until the LED for the desired zone starts blinking.

**Step 3.** Press the ON button to turn the zone on.

**Step 4.** Activate the selected source, so sound is distributed to the zone that is to be adjusted.

**Step 5.** Go to the Master Keypad in the zone you're going to adjust. Note that the room will be ON and Master Key #1 will be illuminated.

## All ON/Fixed Volume

**Step 6.** Master Key #1 lights up, indicating you are ready to adjust ALL ON Volume if the zone is set to variable mode. If the zone is set to fixed mode, you are adjusting the volume level to which the zone will always be set.

**Step 7.** Use the Volume Up / Down keys to adjust the zone ALL ON/Fixed Volume.

**Important Note:** When setting Fixed Volume for zones using Silencers, be sure to turn the volume knob of the Silencer to the full volume position (turned fully clockwise). Then set the volume to the a level appropriate for full the volume setting in that zone.

## Bass

**Step 8.** Tap Master Key #2. Master Key #2 lights up, indicating it is ready to adjust Bass.

**Step 9.** Use the Volume Up key to increase bass and the Volume Down key to decrease it.

## Treble

**Step 10.** Tap Master Key #3. Master Key #3 lights up, indicating it is ready to adjust treble.

**Step 11.** Use the Volume Up key to increase treble and the Volume Down key to decrease it.

## Balance

**Step 12.** Tap Master Key #4. Master Key #4 lights up indicating it is ready to adjust balance.

**Step 13.** Use the Volume Up key for the right speaker and the Volume Down key for the left.

## Loudness

Zones are set to loudness OFF as the default.

**Step 14.** When using Solo™ keypads, tap the Arrow Up key to turn loudness ON.

**Important Note:** When using a Solo™ keypad module, you must press any one of the Master Keys prior to setting Loudness. The Arrow Up key won't work unless one of the Master Keys is illuminated.

or

When using Select™ keypads, tap Master Key 5 to turn loudness ON.

**Step 15.** Tap the same key again (depending on your keypad module) to turn loudness OFF.

## Flat

Tap any other key (besides the five Master Keys and the Arrow Up key) for acoustic adjustments to revert to flat. You may tap any other key including those from Transport™ or Numeric™ Modules installed in the room.

**Step 16.** Press the OFF Key on the Master Keypad connected to that zone to memorize the new settings.

Follow steps 2–16 for all zones requiring acoustic adjustment.

## To exit Acoustic Adjustment Mode

**Step 1.** Press the OFF button to turn the zone OFF. The LED for the last zone ON blinks GREEN.

**Step 2.** Press the Program button to exit Acoustic Adjustment Mode.

# PROGRAMMING STEPS

**Important Note:** Before you start programming the A4.6Ci:

• Assign components with a single, toggle command for ON and OFF to Inputs 1 and 2. These inputs have sync.

• Assign components with separate ON and OFF commands to Inputs 3 and 4. These inputs do not have sync.

**Set-Up**

1. Remove the programming cover to reveal the programming panel.

2. Connect a Master Keypad into the keypad input to the far right of the panel.

## POWER COMMANDS

**Step 1** - Press and hold the **PROGRAM** button to enter the program mode.
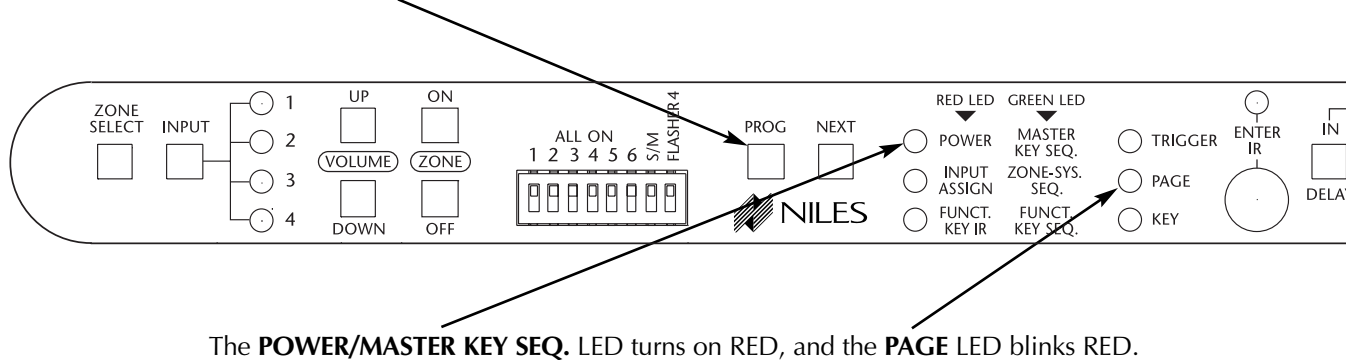
The **POWER/MASTER KEY SEQ.** LED turns on RED, and the **PAGE** LED blinks RED.

**Step 2** - Press a Master Key where you want to program source component power IR commands.

**Important Note:** Every Master Key that activates a source component with IR **must be programmed individually.**

Master Key 1 — TUNER DVD — Master Key 2
Master Key 3 — CD DSS — Master Key 4
Master Key 5 — JAZZ ROCK — Master Key 6
Master Key 7 — BLUES POP — Master Key 8

Select™    Transport™    Numeric™
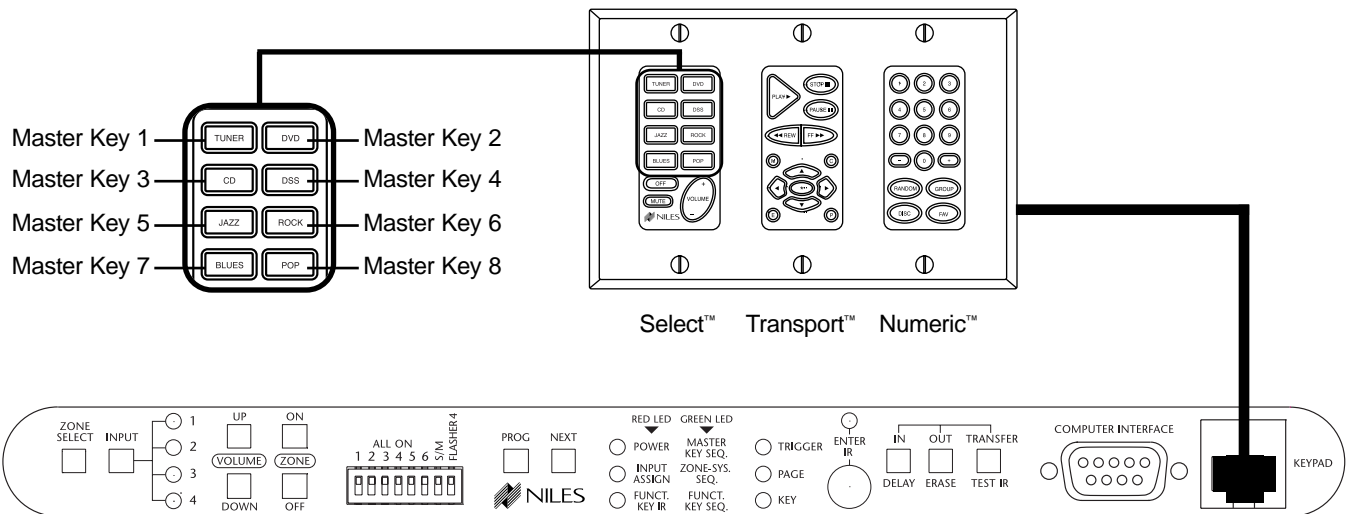
## PROGRAMMING STEPS

The **PAGE LED** turns off, and the **ENTER IR** LED turns on GREEN.
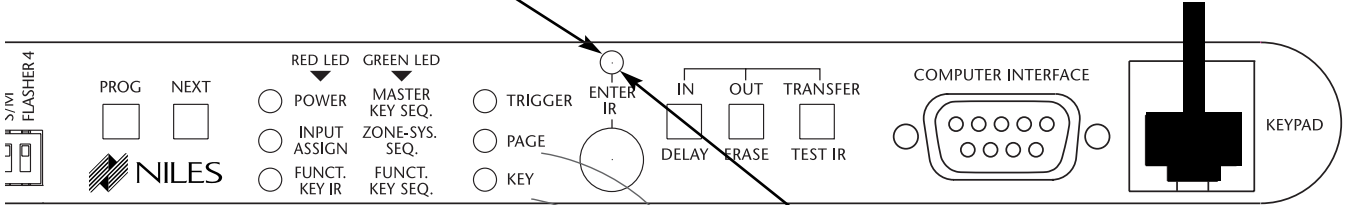


**Step 3** - Press the appropriate power or ON button on the original factory remote.
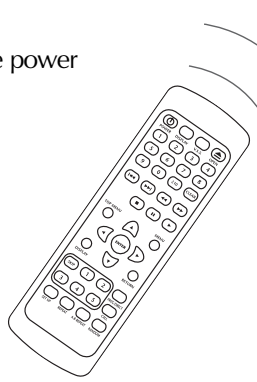
The **ENTER IR** LED turns on RED to indicate it is ready to receive the OFF command.

**Step 4** - Press the OFF button on the original factory remote if the component has discrete ON and OFF commands.
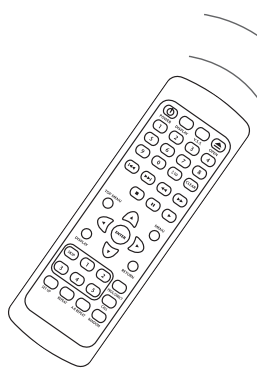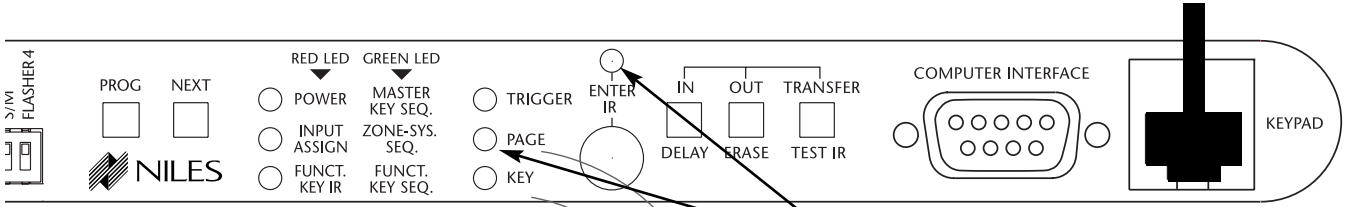


The **ENTER IR** LED turns OFF, and the **PAGE LED** blinks RED.

Or press the **PROGRAM** button if the component has one power command for both ON and OFF.
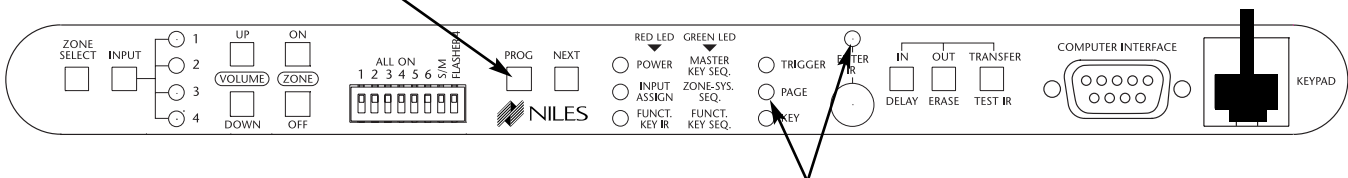


The **ENTER IR** LED turns off, and the **PAGE** LED blinks RED.

# PROGRAMMING STEPS

**Step 5** - To test the captured IR command(s), install a flasher for the source component. Tap the **TEST** button.
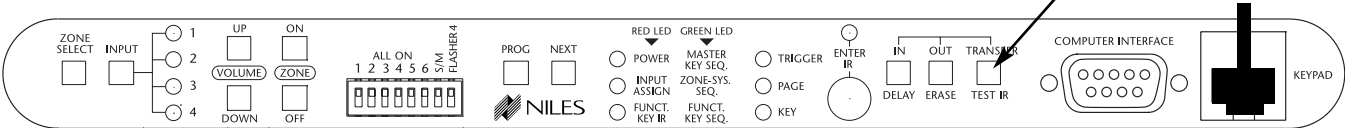
The **ENTER IR** LED may flicker, blink, or be intermittently solid GREEN to reflect real-time IR.

**Step 6** - If the command turns on the source, tap the **TEST** button again to turn it off and continue your manual programming.
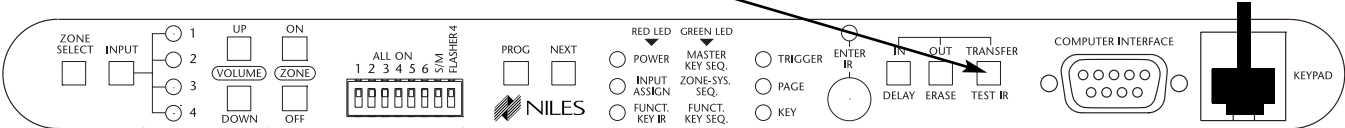
or

If the command fails to operate the source component, press the same Master Key again to erase the IR command automatically.

**Step 7** - Repeat steps 2 through 6, until you have successfully captured the IR command(s). Note that you need to capture both ON and OFF again if the component has discrete power commands.

**Step 8** - Press the next Master Key to program. Repeat steps 2 through 7 for the remaining Master Keys.

When all the necessary IR commands have been programmed, press the **NEXT** button to continue programming.
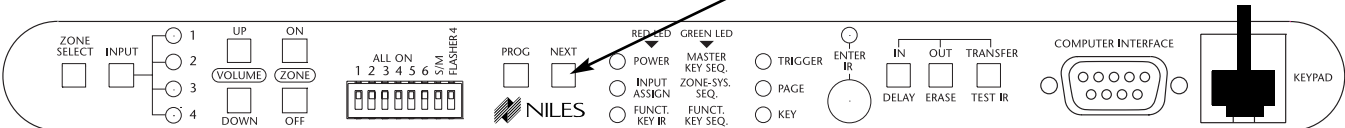
## INPUT ASSIGNMENT

**Step 1** - Press a Master Key to assign one of the four audio inputs corresponding to the source component that Master Key will activate. It doesn't matter how the input assignment is ordered. For example, I can have input 3 assigned to Master Key 1, input 4 assigned to Master Key 2, and so on.

Select™    Transport™    Numeric™
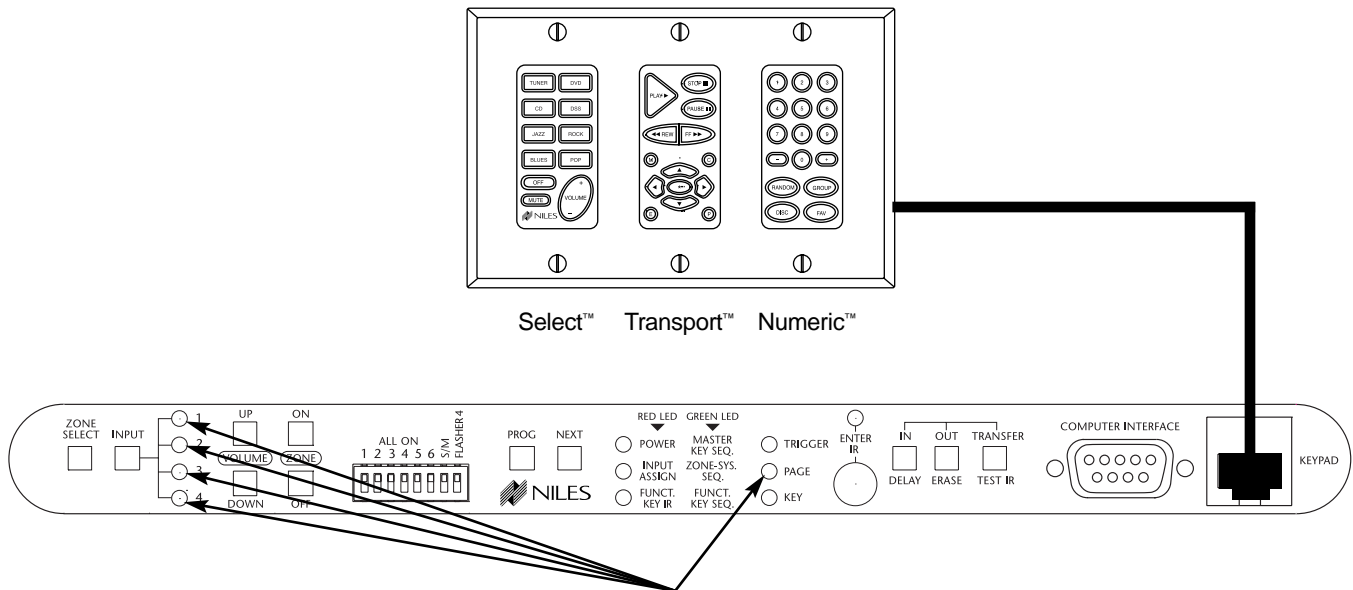
The **PAGE** LED turns off and one of the **INPUT** LEDs turns on RED.
(It will be the LED corresponding to the source the Master Key is currently programmed for.)

**Step 2** - Press the **INPUT** button to change the input for that Master Key.
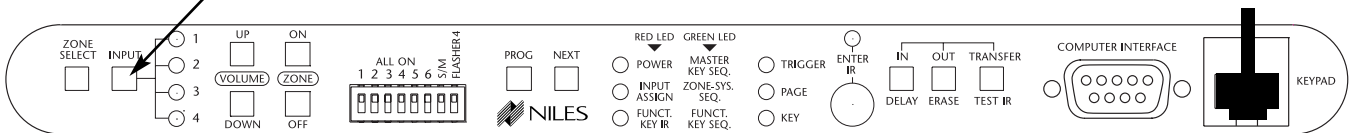
**Step 3** - When the desired INPUT LED is turned on, press **PROGRAM** to assign it.
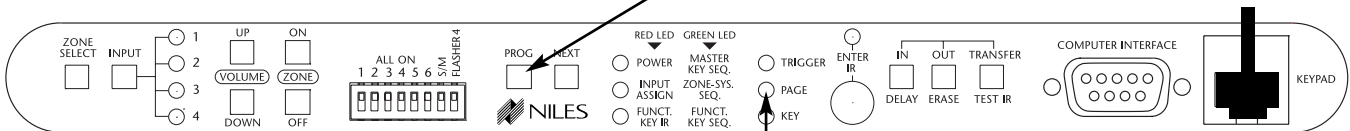
The INPUT LED turns off and the **PAGE** LED blinks RED.

**Step 4** - Repeat steps 1 through 3 until all Master Keys have been assigned their appropriate inputs.

# PROGRAMMING STEPS

**Step 5** - When all the necessary inputs have been assigned, press the **NEXT** button to continue programming.
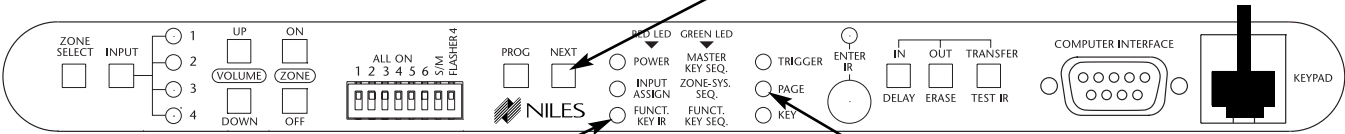


The **FUNCTION-KEY IR**/(**FUNT. KEY SEQ**.) LED turns on RED, and the **PAGE** LED blinks RED.

## FUNCTION-KEY IR

**Step 1** - Press the appropriate Master Key to choose the page for programming the individual IR commands stored to the various Function Keys. Each Function Key can store one IR command per available Master Key Page.

To program function keys within the Default Page, tap the **OFF** Key. Master Keys 1 and 3 illuminate.

To program function keys within the Library Page, press and hold the **OFF** key. Master Keys 1, 3, and 4 illuminate, simulating an "L."
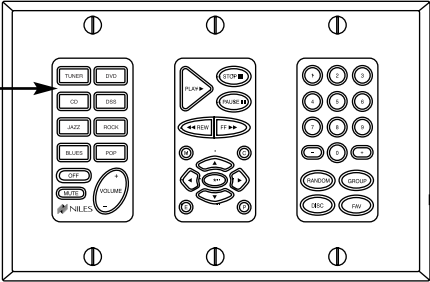


Select™    Transport™    Numeric™
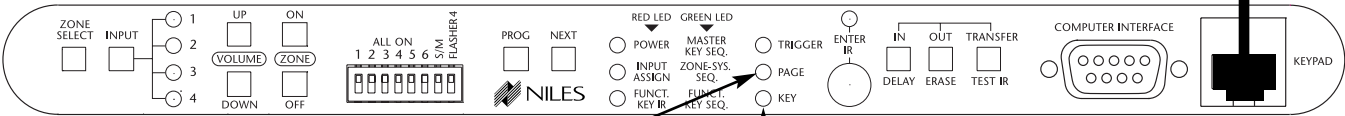


The **PAGE** LED turns off and the **KEY** LED blinks RED.

**Step 2** - Press the function key you are programming.
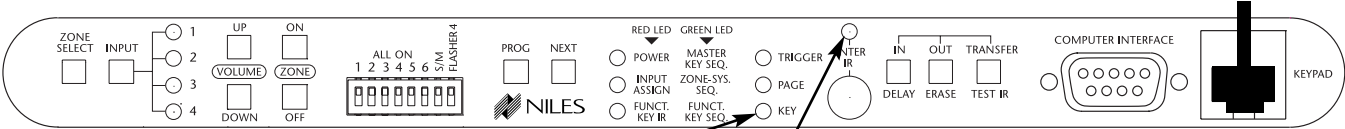


The **KEY** LED turns off, and the **ENTER IR** LED turns on RED.

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# PROGRAMMING STEPS

**Step 3** - Press the appropriate command on the original factory remote.

The **ENTER IR** LED turns OFF, and the **KEY** LED blinks RED.
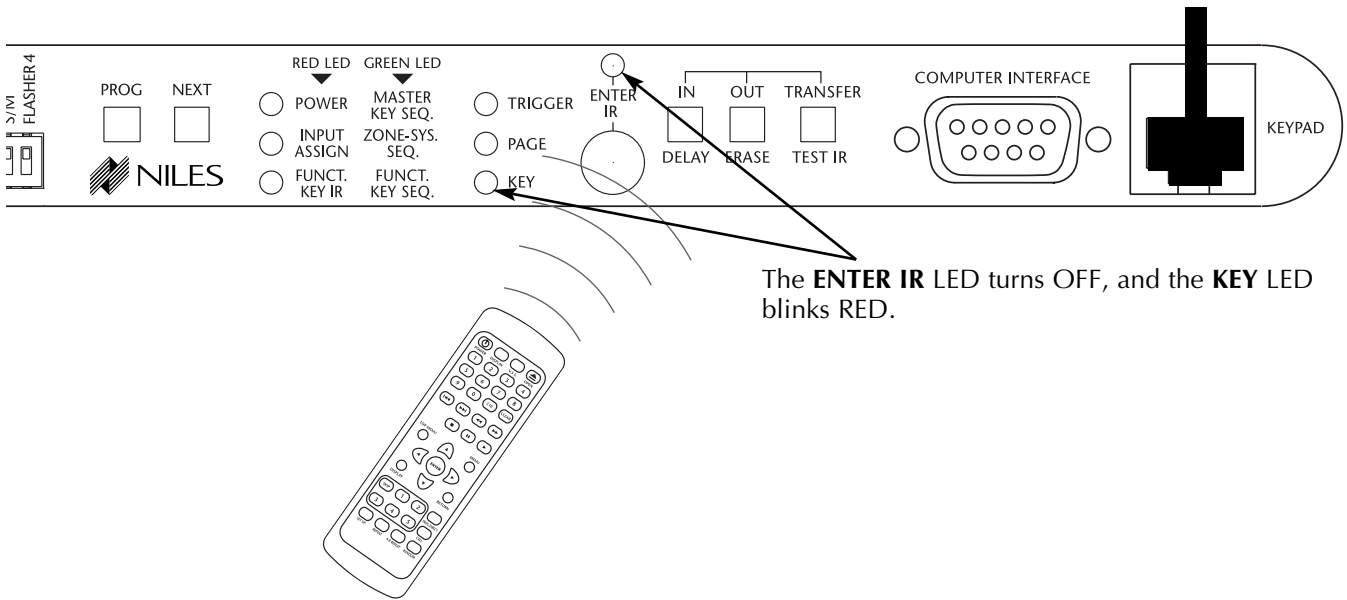
**Step 4** - To test the captured IR command, install a flasher for the source component and press the **TEST IR** button.
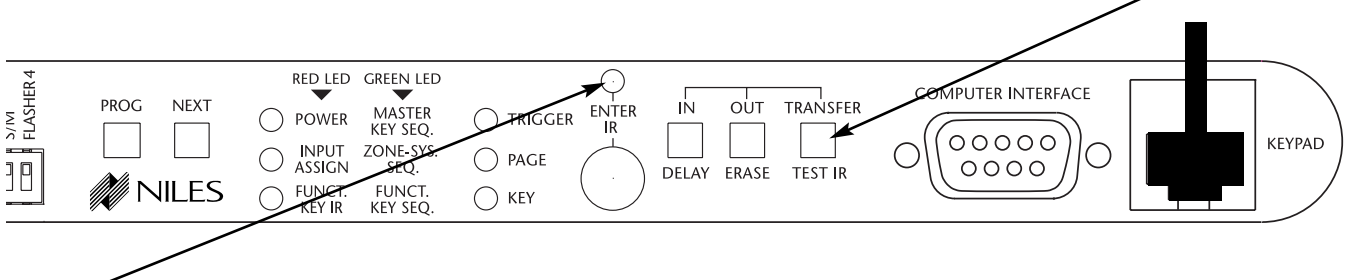
The **ENTER IR** LED may flicker, blink, or be intermittently solid RED to reflect real-time IR activity during IR transmission and then turn OFF again.

**Step 5** - If the command fails to operate the source component, press the same Function Key you are programming. The IR command is automatically erased.

If the command successfully operates the source component, continue programming.

**Step 6** - You can continue programming other Function Keys for the same Master Key Page. Repeat steps 2 through 5 until all IR commands have been programmed.

# PROGRAMMING STEPS

**Step 7** - Press the **PROGRAM** button to select a different Master Key Page.

The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.
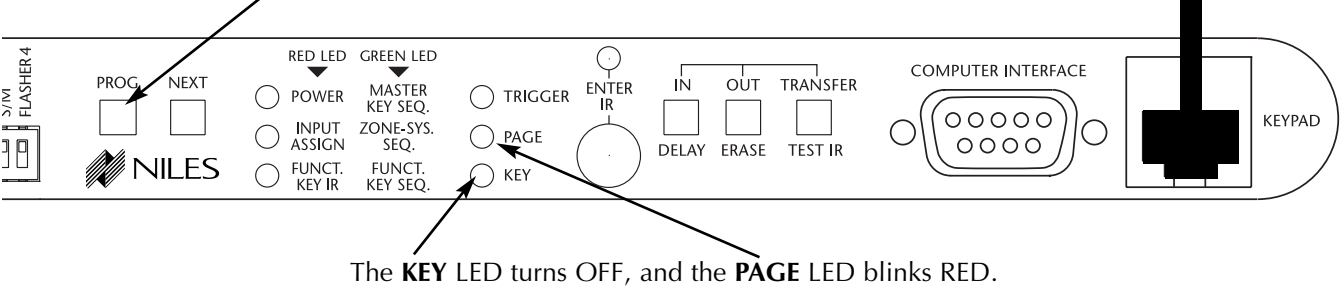
**Step 8** - Repeat steps 1 through 7 until all the necessary IR commands have been stored, and all Function Keys have been programmed for all the Master Key Pages.

When all the necessary Function-Key IR commands have been programmed, press **NEXT** to continue programming.

The **POWER/MASTER KEY SEQ.** LED turns ON GREEN, the **TRIGGER** LED turns ON RED, and the **PAGE** LED blinks RED.
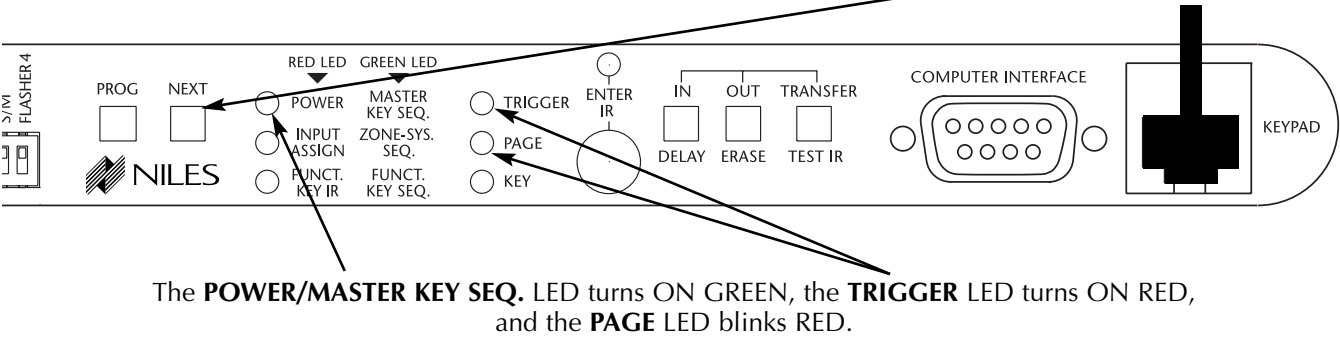
## MASTER KEY SEQUENCE

**Step 1** - Press a Master Key to program the Master Key Sequence.

Select™     Transport™   Numeric™

The **TRIGGER** LED turns OFF, and the **PAGE** continues to blink RED.
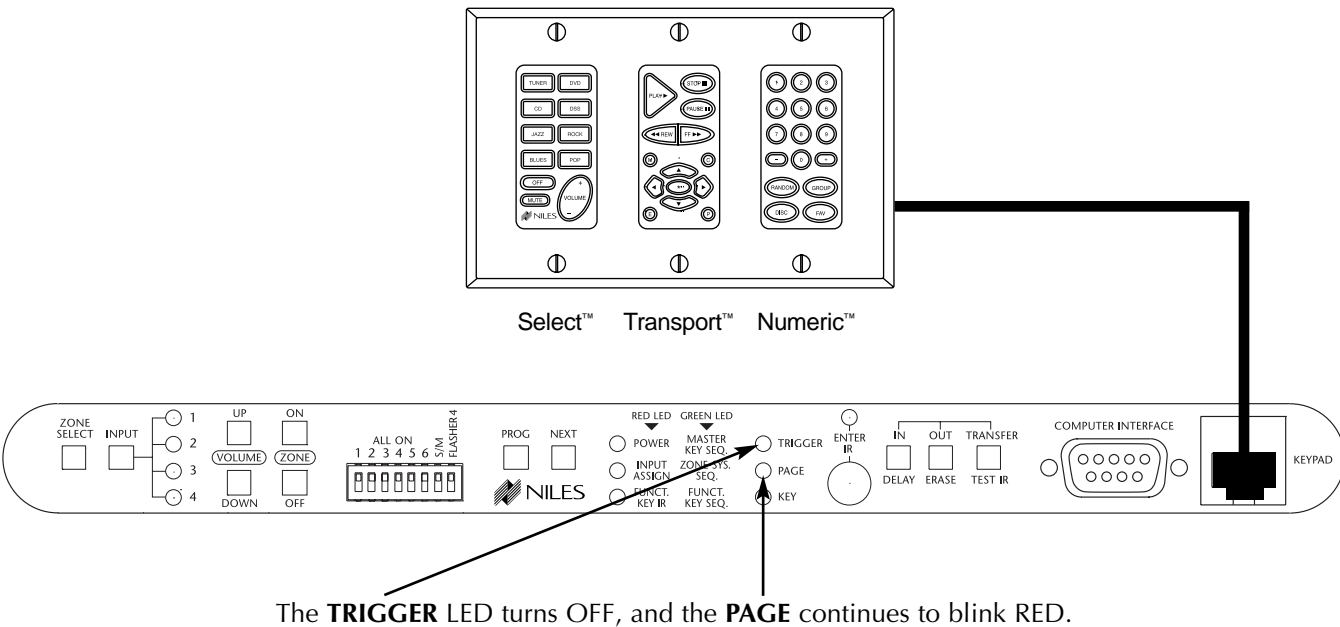
# PROGRAMMING STEPS

**Step 2** - Press the Master Key that identifies the Master Key Page where the IR command is stored for the first step in the Master Key Sequence you are programming.

or

Tap the OFF Key if the IR command is in the Default Page.

or

Press and hold the OFF key if the IR command is in the Library Page.



Select™    Transport™    Numeric™

The **PAGE** LED turns OFF, and the **KEY** LED blinks RED.

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**Step 3** - Press the Function Key where the IR command is stored.



Select™    Transport™    Numeric™
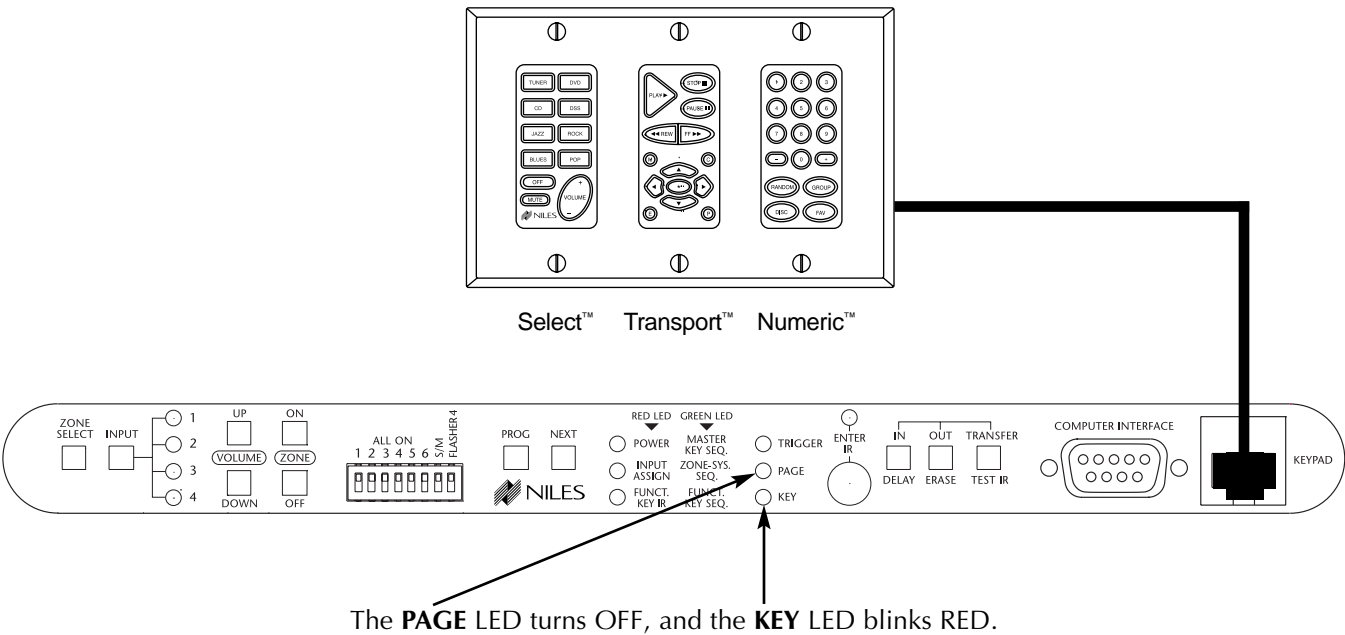
The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.
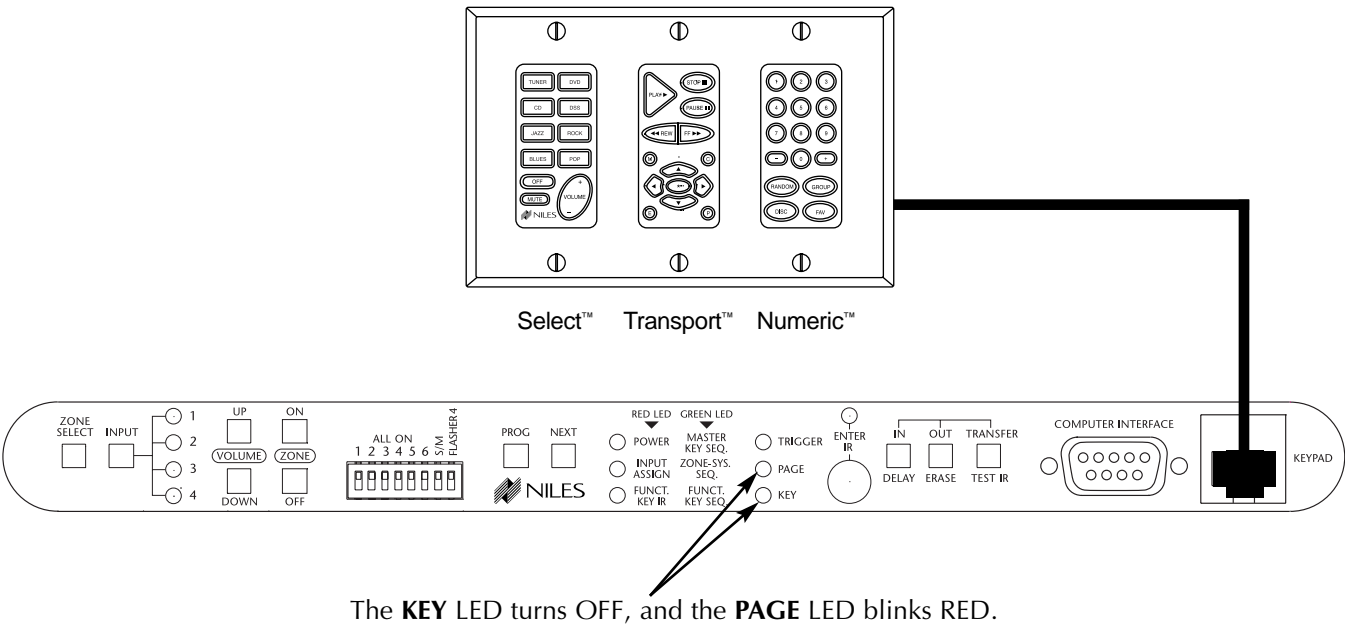
**Step 4** - To insert delays, press the **DELAY** button instead of a Function Key, while the **PAGE** LED is blinking RED.
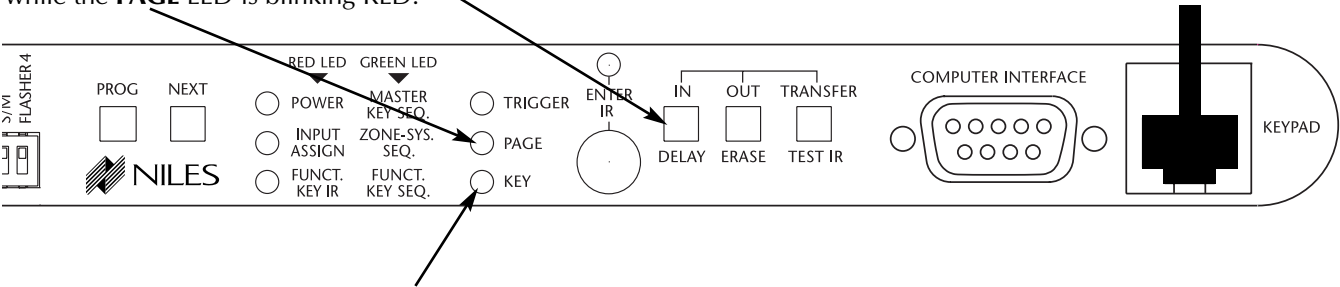
The PAGE LED turns OFF, the **KEY** LED blinks RED, and the first four keys on the Master Key module illuminate.

**Step 5** - Choose the Master Key for the desired delay time. Refer to the table below:

## DELAY TABLE

| KEY | DELAY TIME |
| --- | --- |
| Master Key 1 | .5 seconds |
| Master Key 2 | 1 seconds |
| Master Key 3 | 4 seconds |
| Master Key 4 | 8 seconds |

For example, if you press Master Key 2, a one-second delay is added to the sequence.

After you choose a delay, all Master Keys turn OFF.
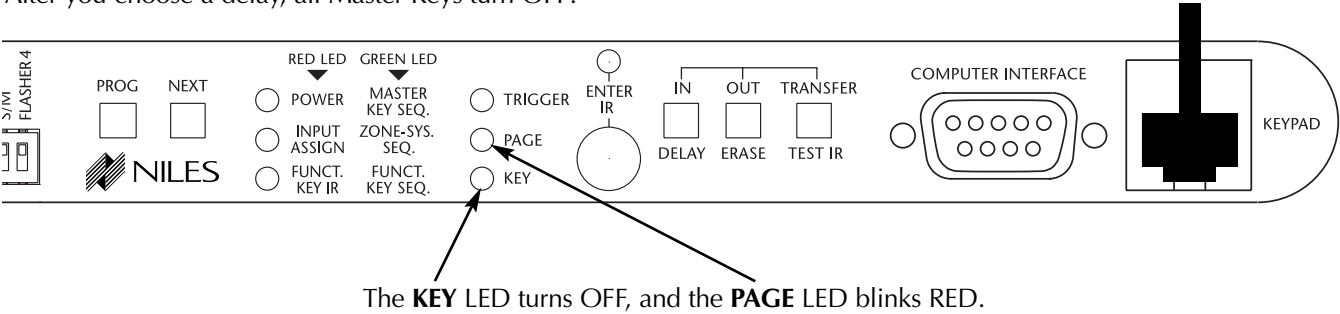
The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.

**Step 6** - To add another delay, press the **DELAY** button again and repeat the previous step. (For example, you can have two consecutive one-second delays.)
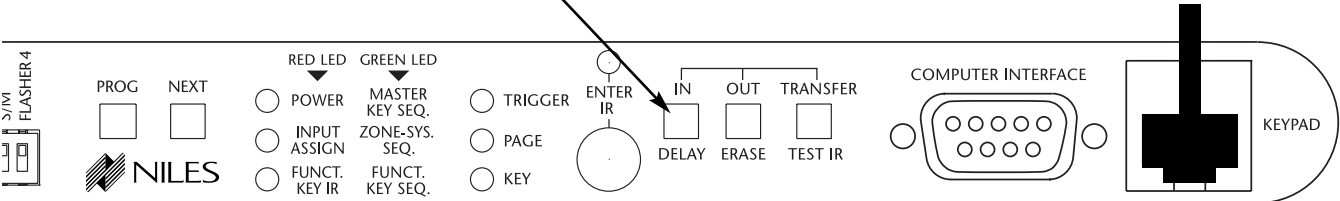
# PROGRAMMING STEPS

**Step 7** - Repeat steps 2 through 6 to continue identifying the Master Key Pages where the IR commands are stored for all the steps in the Master Key Sequence you are programming.

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**Step 8** - Press the **PROGRAM** key to program the Master Key Sequence for a different Master Key.



The **TRIGGER** LED turns on RED, and the **PAGE** LED continues to blink RED.

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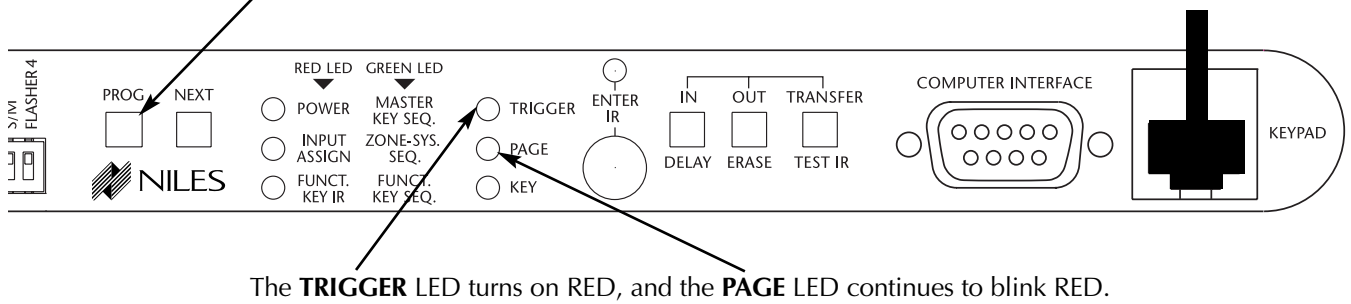
**Step 9** - Repeat steps 1 through 8 until all Master Key Sequences have been programmed.

**Note:** If you missed IR commands in a sequence, re-do the programming for the whole sequence. When you reach step 3 and press the actual Function Key that triggers the sequence, whatever was previously programmed for that key is automatically erased. To erase programming after it has been saved, see Erasing Programming.

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**Step 10** - Press **NEXT** to continue programming.



The **INPUT ASSIGN/ZONE-SYS. SEQ.**
LED turns on GREEN,

The **TRIGGER** LED is on RED.
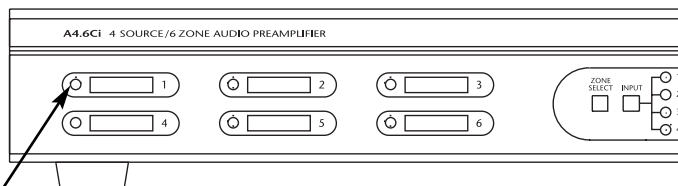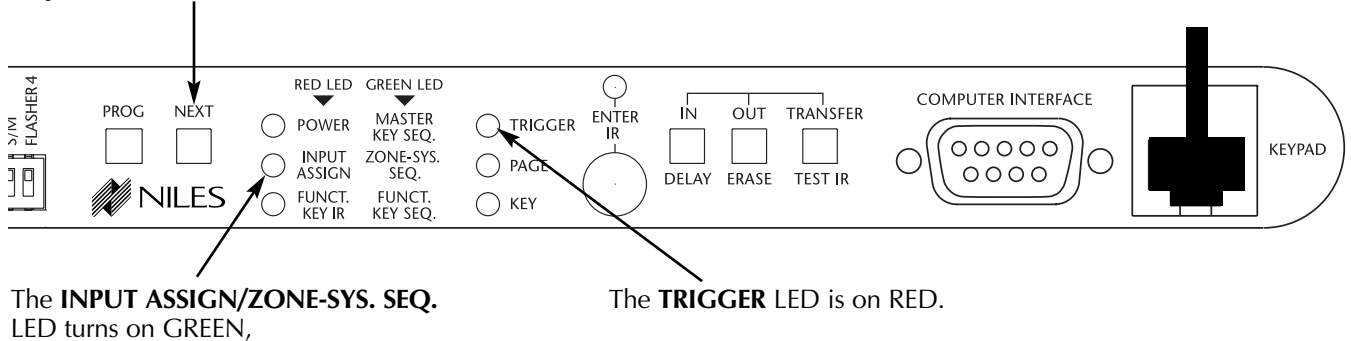


The LED for Zone 1 blinks GREEN, to indicate that Zone 1 is selected by default.

## ZONE ON/OFF AND SYSTEM ON/OFF SEQUENCE

**Step 1** - Press **ZONE SELECT** until the LED for the desired Zone blinks GREEN. All other LEDs turn off.
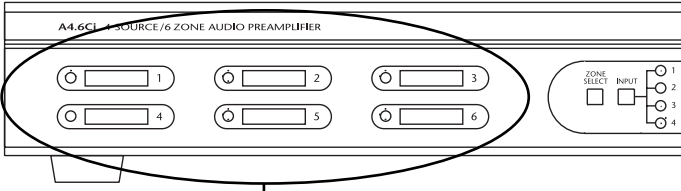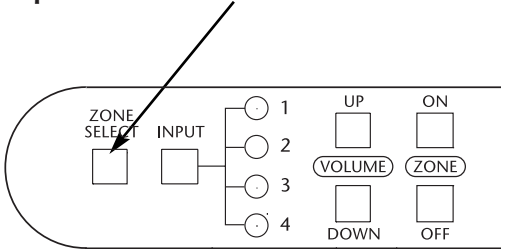
When you pass Zone 6, <u>all</u> LEDs blink. (Press it once more and you go back to Zone 1 to program the Zone On/Off Sequence.)

**Step 2** - Press the **ZONE ON** button to program the Zone ON Sequence for the desired zone or to program the System ON Sequence if you have selected all zones.
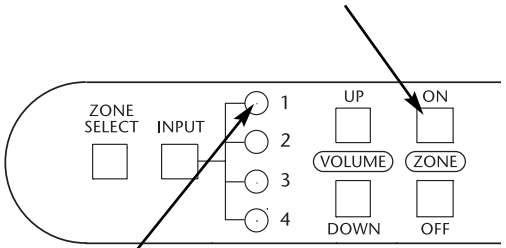
Or press the **ZONE OFF** button to program the zone off for the desired zone or to program the system OFF sequence if you have selected all zones.
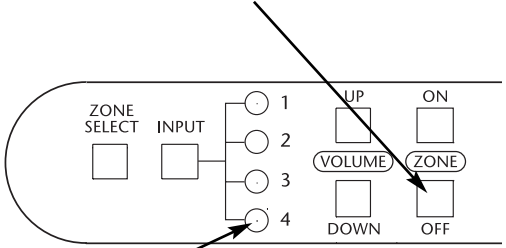
The **INPUT 1** LED turns on.

The **INPUT 4** LED turns on.

The selected zone's LED stops blinking and turns on solid GREEN.
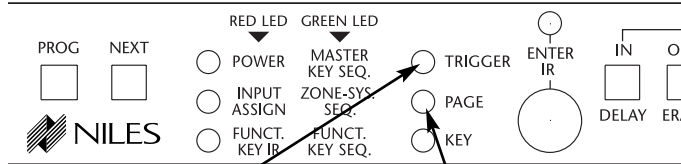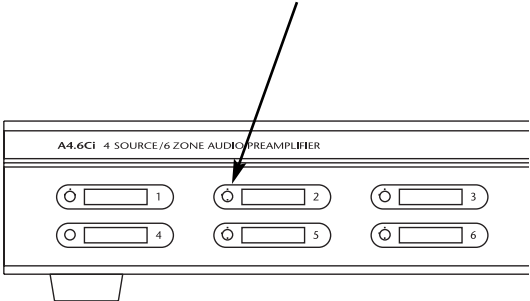
The **TRIGGER** LED turns off and the **PAGE** LED blinks

## PROGRAMMING STEPS

**Step 3** - Press the Master Key that identifies the Master Key page where the IR command is stored for the first step in the Zone On/Off or System On/Off sequence you are programming.

or
Tap the **OFF** Key if the IR command is stored in a Function Key within the Default Page. Master Keys 1 and 3 illuminate.

or
Press and hold the **OFF** Key if the IR command is stored in a Function Key within the Library Page. Master Keys 1, 3, and 4 illuminate, simulating an "L."

Select™    Transport™    Numeric™

The **PAGE** LED turns OFF, and the **KEY** LED blinks RED.

**Step 4** - Press the Function Key where the IR command is stored.

Select™    Transport™    Numeric™
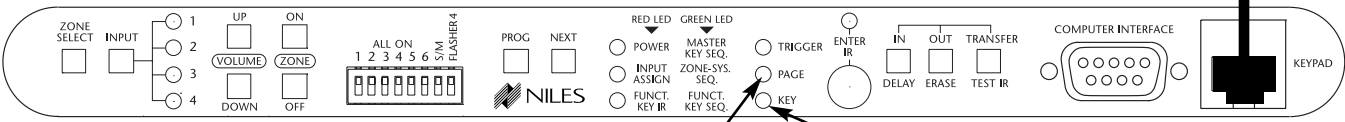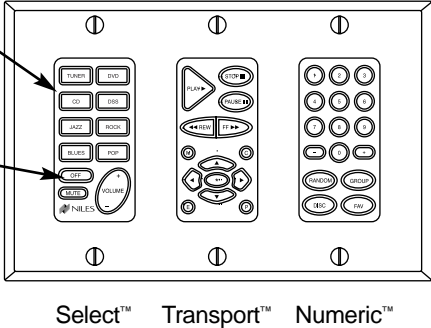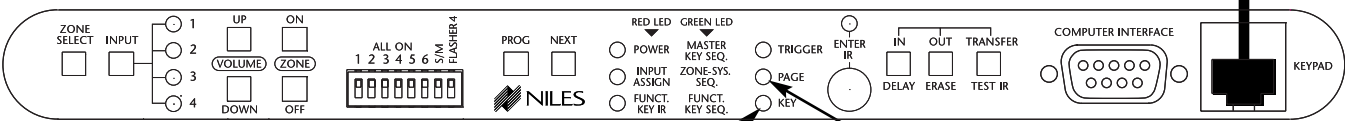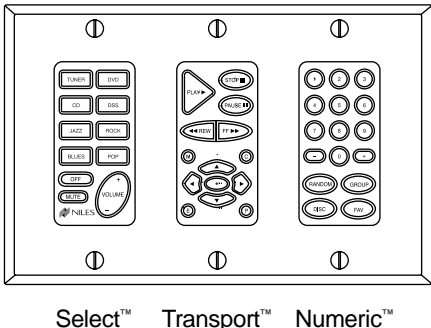
The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.

# PROGRAMMING STEPS

**Step 5** - Select the page where the next IR command is stored to continue the Zone On/Off or System On/Off sequence you are programming. (You can press a Master Key, tap the Off Key for the Default page, or press and hold the Off Key for the Library page).
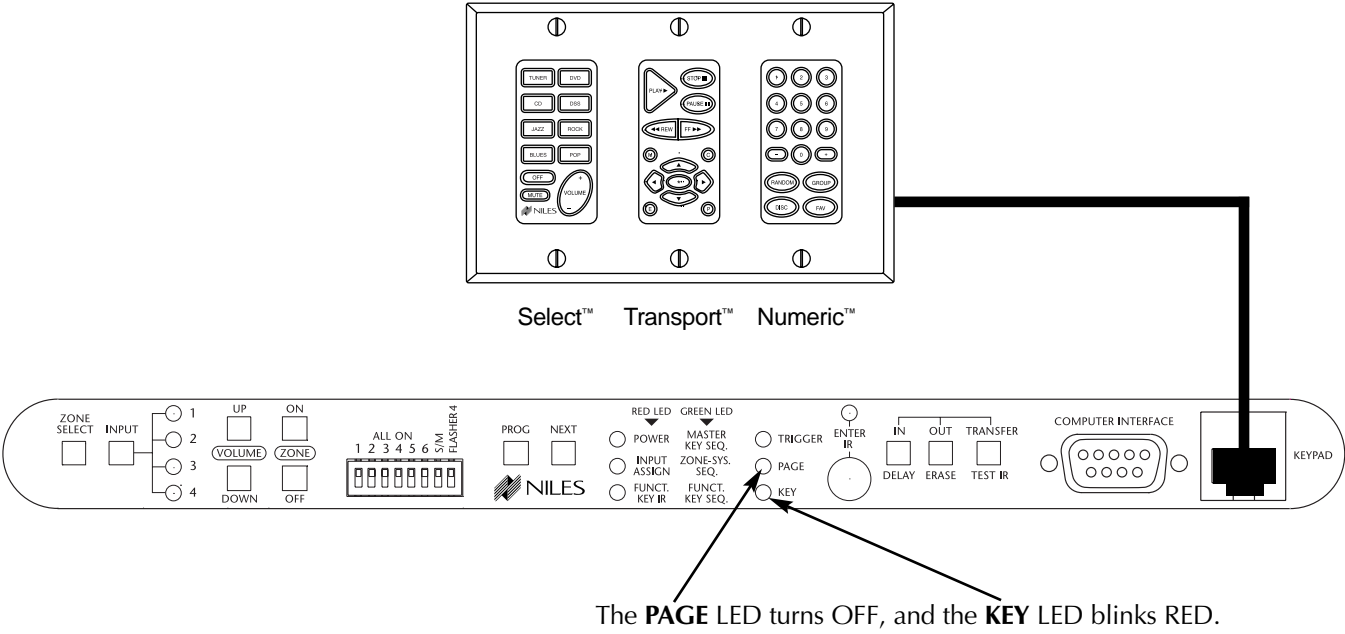


Select™    Transport™    Numeric™

The **PAGE** LED turns OFF, and the **KEY** LED blinks RED.

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**Step 6** - To insert delays, press the **DELAY** button instead of a Master Key, while the **PAGE** LED is blinking RED.



The **PAGE** LED turns off, the **KEY** LED blinks RED and the first four keys on the Master Key module illuminate.

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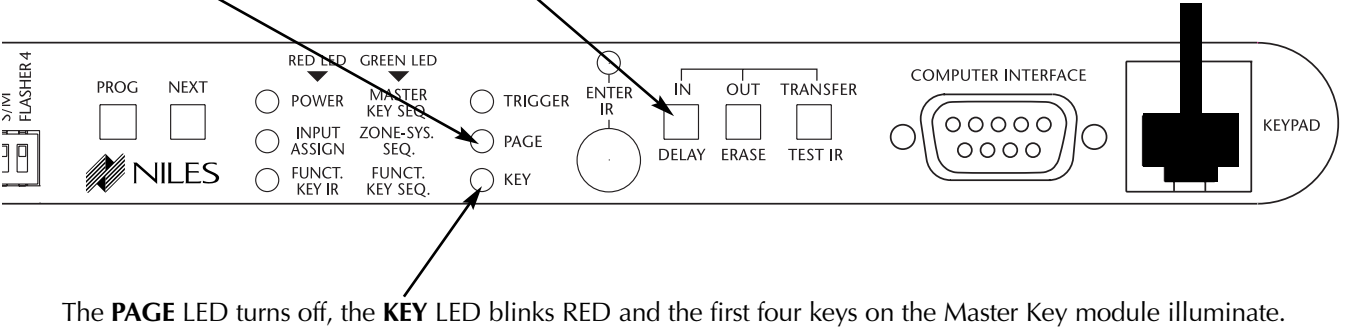
**Step 7** - Choose the Master Key for the desired delay time. Refer to the table below:

## DELAY TABLE

| KEY | DELAY TIME |
|-----|-----------|
| Master Key 1 | .5 seconds |
| Master Key 2 | 1 seconds |
| Master Key 3 | 4 seconds |
| Master Key 4 | 8 seconds |

For example, if you press Master Key 2, a one-second delay is added to the sequence.
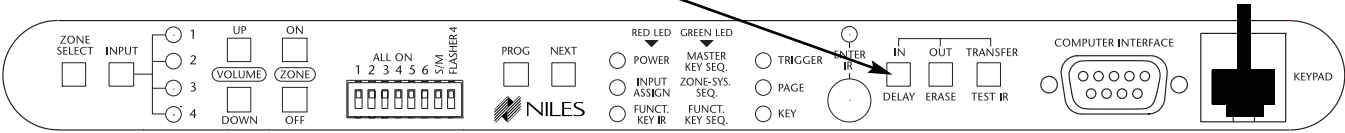
After you choose a delay, all Master Keys turn off.
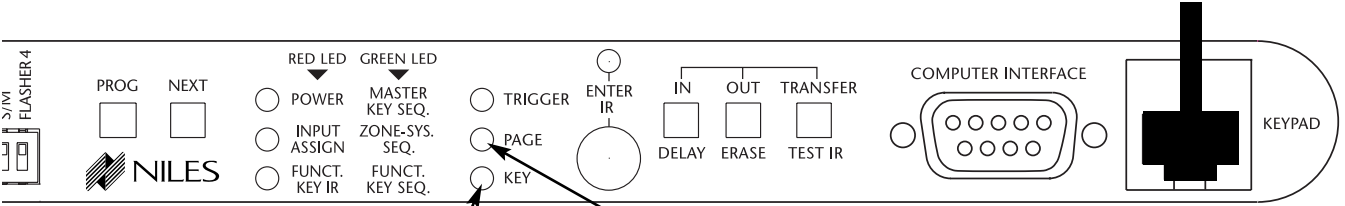


The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.

**Step 8** - To add another delay, press the **DELAY** button again, and repeat the previous step. (For example, you can have two consecutive one-second delays.)



**Step 9** - Repeat steps 3 through 8 (Zone ON/OFF and System ON/OFF sequence) to continue identifying the Master Key Pages where the IR commands are stored for all the steps in the Zone On/Off or System On/Off sequence you are programming.

**Step 10** - Press the **PROGRAM** key to program a different Zone On/Off or System On/Off sequence.
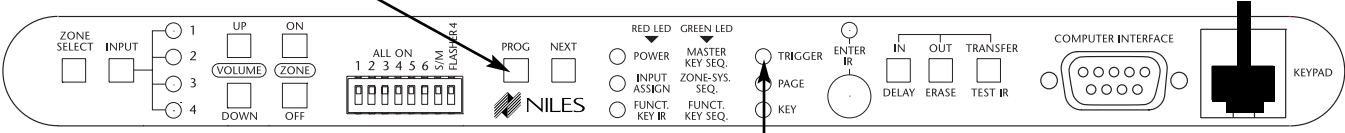


The **ZONE 1** LED blinks GREEN, the **TRIGGER** LED turns on RED.
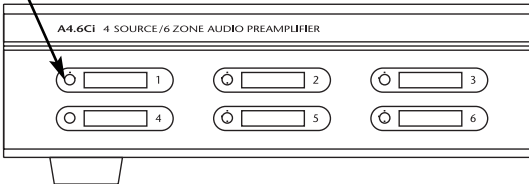
# PROGRAMMING STEPS

**Step 11** - Repeat steps 2 through 10 until all Zone On/Off or System On/Off sequences have been programmed.

**Note:** If you missed IR commands in a sequence, re-do the programming for the whole sequence. Whatever was previously programmed is automatically replaced.

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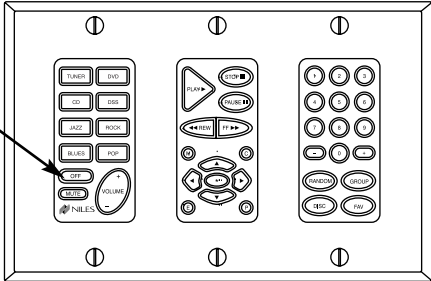**Step 12** - Press **NEXT** to continue programming.
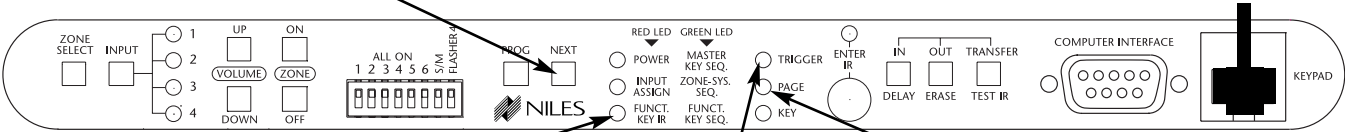


The **FUNCTION KEY IR/FUNCT. KEY SEQ.** LED is on GREEN, the **TRIGGER** LED is on RED, and the **PAGE** LED is blinking RED.
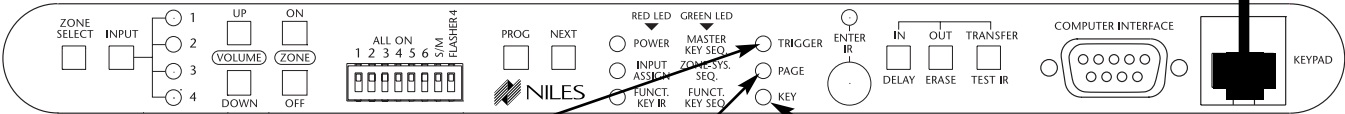
---

## FUNCTION-KEY SEQUENCE

**Step 1** - Press a Master Key to identify the Master Key Page where the Function Key that triggers the sequence is located.

To choose the Default Page, tap the **OFF** Key. Master Keys 1 and 3 illuminate.
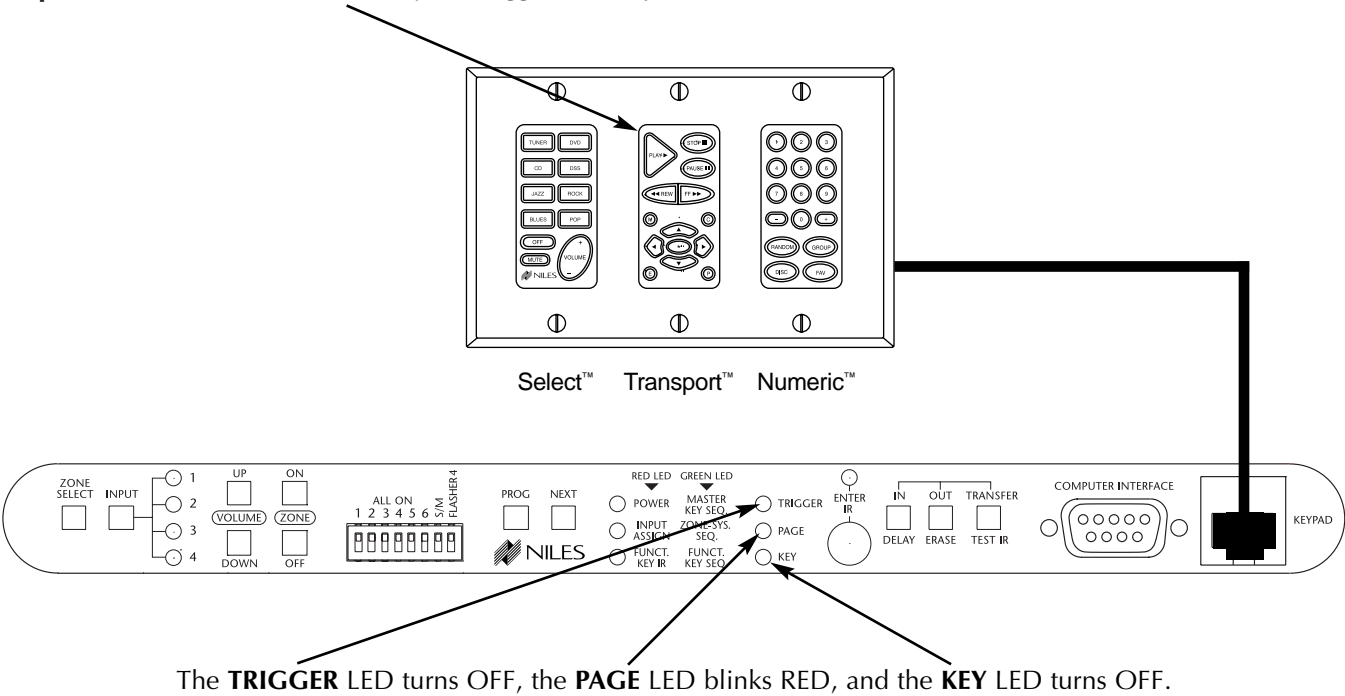

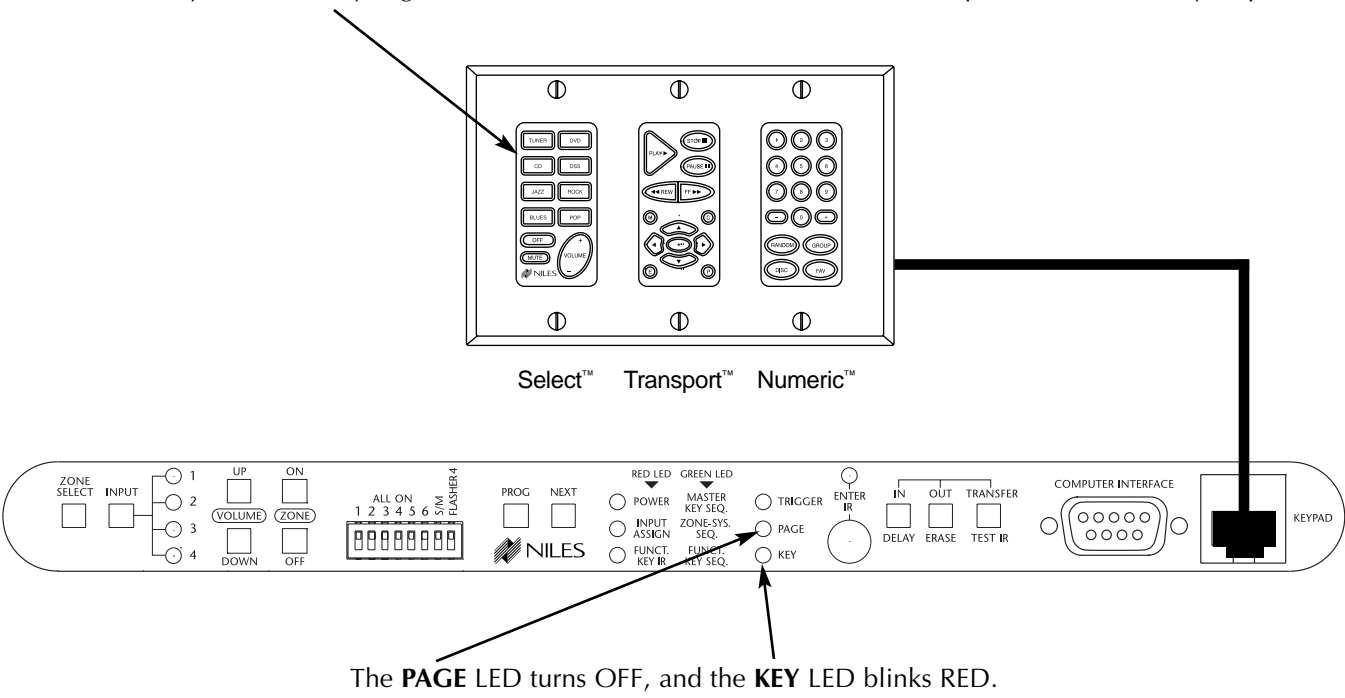
Select™    Transport™    Numeric™

The **TRIGGER** LED remains ON, the **PAGE** LED turns OFF, and the **KEY** LED blinks RED.

**Step 2** - Press the actual Function Key that triggers the sequence.

Select™    Transport™    Numeric™

The **TRIGGER** LED turns OFF, the **PAGE** LED blinks RED, and the **KEY** LED turns OFF.
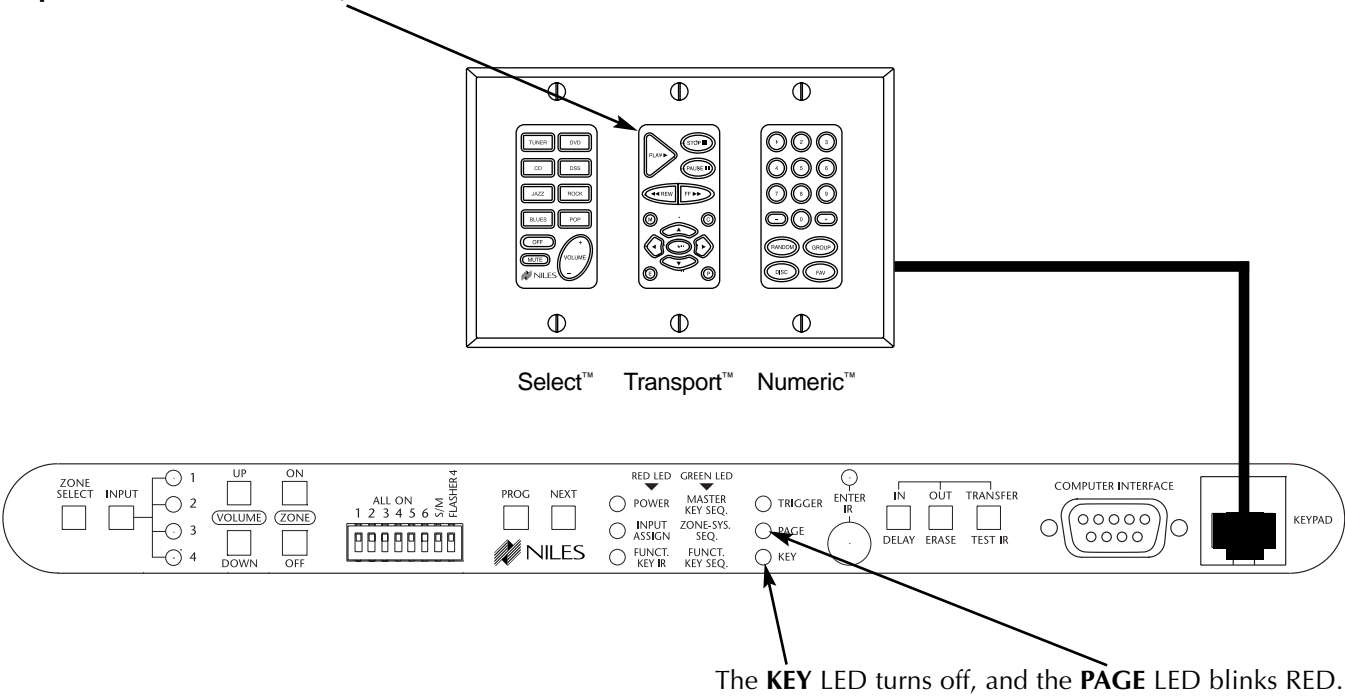
---

**Step 3** - Press the Master Key that identifies the Master Key Page (or tap the **OFF** Key for the Default Page, or press and hold the **OFF** Key for the Library Page) where the IR command is stored for the first step in the Function-Key Sequence.

Select™    Transport™    Numeric™

The **PAGE** LED turns OFF, and the **KEY** LED blinks RED.

**Step 4** - Press the Function Key where the IR command is stored.

Select™    Transport™    Numeric™

The **KEY** LED turns off, and the **PAGE** LED blinks RED.

**Step 5** - To insert delays, press the **DELAY** button instead of a Master Key
while the **PAGE** LED is blinking RED.

The **PAGE** LED turns off, the **KEY** LED blinks RED and the first four keys on the Master-Key Module illuminate.
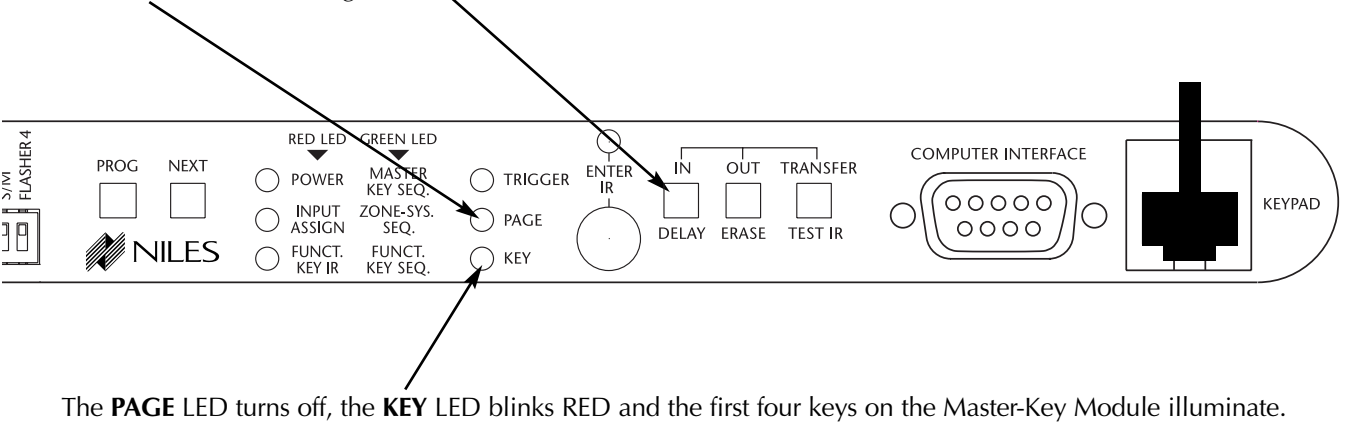
# PROGRAMMING STEPS

**Step 6** - Choose the Master Key for the desired delay time. Refer to the table below:

### DELAY TABLE

| KEY | DELAY TIME |
|---|---|
| Master Key 1 | .5 seconds |
| Master Key 2 | 1 seconds |
| Master Key 3 | 4 seconds |
| Master Key 4 | 8 seconds |

For example, if you press Master Key 2,
a one-second delay is added to the sequence.

After you choose a delay, all Master Keys turn off.



The **KEY** LED turns OFF, and the **PAGE** LED blinks RED.
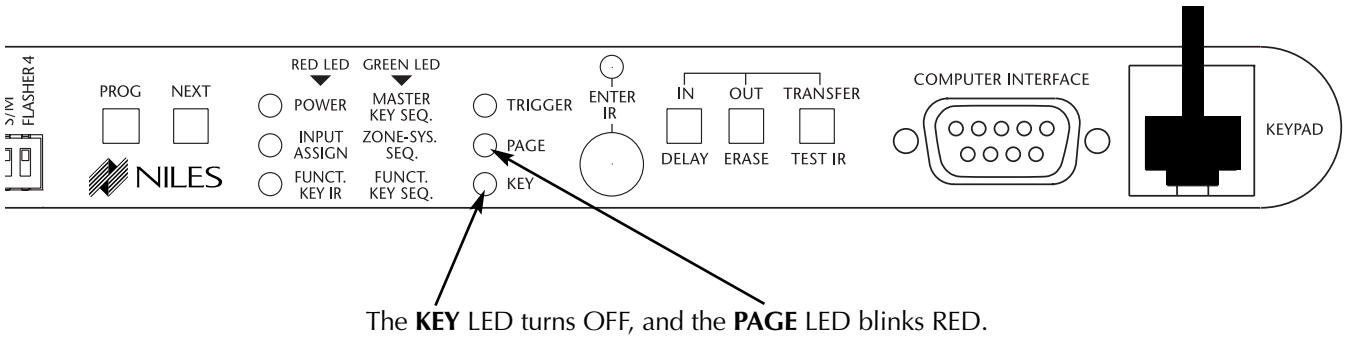
**Step 7** - To add another delay, press the **DELAY** button again, and repeat the previous step. (For example, you can have two consecutive one-second delays.)
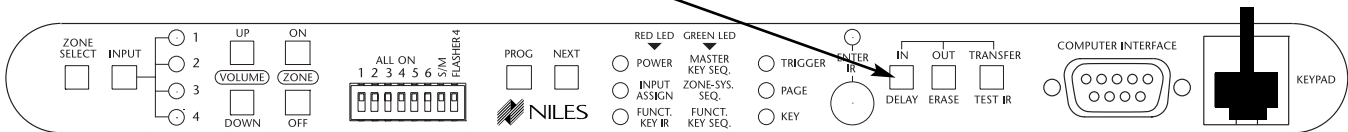


**Step 8** - Repeat steps 3 through 7 until you have programmed all the steps in the Function-Key Sequence.
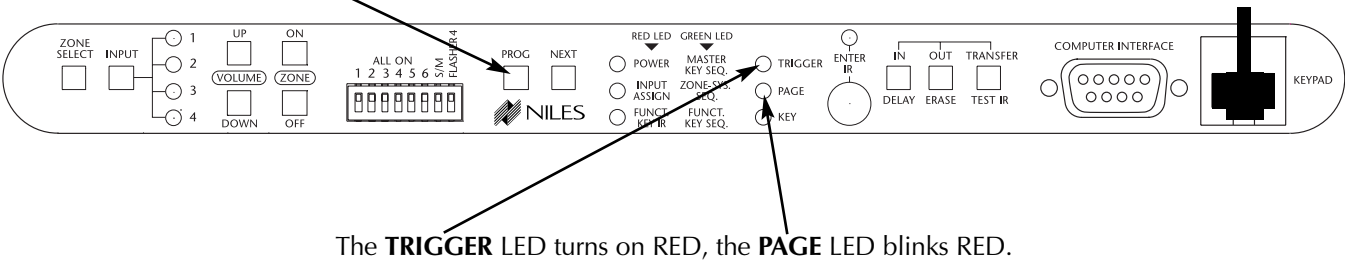
**Step 9** - Press the **PROGRAM** button to program a sequence for a different Function Key within the same Master Key Page.



The **TRIGGER** LED turns on RED, the **PAGE** LED turns off, and the **KEY** LED blinks RED.
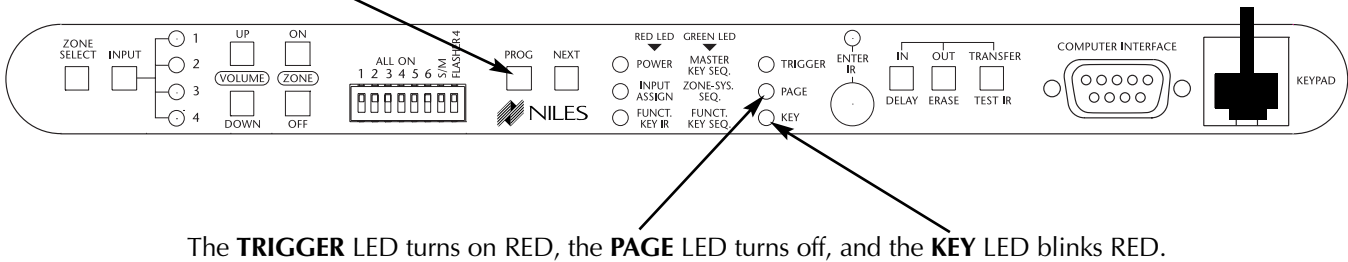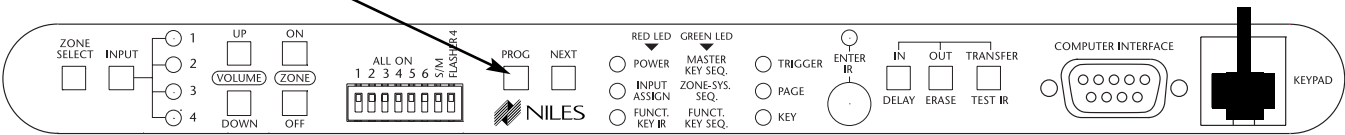
# PROGRAMMING STEPS

**Step 10** - Repeat steps 2 through 9 until you have programmed all the Function-Key Sequences within the selected Master Key Page.

---

**Step 11** - Press the **PROGRAM** button twice to program sequences within other Master Key Pages.



The **TRIGGER** LED turns on RED, the **PAGE** LED blinks RED.

---

**Step 12** - Repeat steps 1 through 11 until you have programmed all the Function-Key Sequences for all Master Key Pages.

---

**Step 13** - Press the **PROGRAM** button three times to save and exit the Programming Mode.

# PROGRAM-EDITING STEPS

## EDIT SOURCE-COMPONENT POWER
Steps to edit the IR commands to power IR activated source components.

**Step 1** - Press and hold the PROGRAM button.
The POWER/(MASTER KEY SEQ) LED turns on RED, and the PAGE LED blinks, RED.

**Step 2** - Press a Master Key where you will edit source component power IR commands.
**Important Note:** Every Master Key that activates a source component with IR must be programmed individually.

The PAGE LED turns off, and the ENTER IR LED turns on GREEN.

**Step 3** - Press the appropriate Power or ON button on the original factory remote.
The ENTER IR LED turns on RED to indicate it is ready to receive the OFF command.

**Step 4** - Press the OFF button on the original factory remote if the component has discrete ON and OFF commands.
The ENTER IR LED turns off, and the PAGE LED blinks RED.

or

Press the PROGRAM button if the component has a single power command for ON and OFF.
The ENTER IR LED turns off, and the PAGE LED blinks RED.

**Step 5** - To test the command(s), press the TEST button. If it does not operate the component as expected, teach and test the command again until it does.

**Note:** Repositioning the remote control when teaching the command can assist in capturing commands accurately.

**Step 6** - If there are other Master Keys to edit, press the appropriate Master Key and then repeat steps 3 through 5 until you have edited all the power commands.

**Step 7** - Press Next to edit Input Selection. The INPUT ASSIGN /(ZONE-SYS. SEQ.) LED turns on RED, and the PAGE LED blinks RED.

or

**Step 8** - Press PROGRAM to save and exit programming.

## EDIT INPUT SELECTION
Steps to edit the assigned audio input for the Master Keys.

**Step 1** - Press and hold the PROGRAM button.

**Step 2** - Tap the NEXT button once.
The INPUT ASSIGN /(ZONE-SYS. SEQ.) LED turns on RED, and the PAGE LED blinks RED.

**Step 3** - Press the Master Key to edit.
The PAGE LED turns off. Either the number 1 INPUT LED turns on RED (by default) or the previously programmed INPUT LED turns on RED.

**Step 4** - Press the INPUT SELECT button on the front panel to choose the input for that Master Key. When the desired INPUT LED is turned on, press PROGRAM to assign it.

The INPUT LED turns off and the PAGE LED blinks RED.

**Step 5** - Repeat steps 3 and 4 until all inputs have been edited.

**Step 6** - Press NEXT to edit Function Key IR. The FUNCTION KEY IR/(FUNCT. KEY SEQ.) LED turns on RED, and the PAGE LED blinks RED.

or

**Step 7** - Press PROGRAM again to save and exit programming.

## EDIT FUNCTION KEY IR PROGRAMMING
Steps to edit the individual IR commands stored to the various Function Keys.

**Step 1** - Press and hold the PROGRAM button.

**Step 2** - Press the NEXT button twice. The FUNCTION KEY IR/(FUNCT. KEY SEQ.) LED turns on RED, and the PAGE LED blinks RED.

**Step 3** - Press the appropriate Master Key to choose a page to edit.

or

To edit a Function Key within the Default Page, tap the OFF Key. Master Keys 1 and 3 illuminate.

or

To edit a Function Key within the Library Page, press and hold the OFF key. Master Keys 1, 3, and 4 illuminate, simulating an "L."

The PAGE LED turns off, and the KEY LED blinks RED.

**Step 4** - Press the Function Key you are editing.
The KEY LED turns off, and the ENTER IR LED turns on RED.

**Step 5** - Press the appropriate command on the original, factory remote.
The ENTER IR LED turns OFF, and the KEY LED blinks RED.

**Step 6** - To test the command(s), press the TEST button. If it does not operate the component as expected, teach and test the command again until it does.

**Note:** Repositioning the remote control when teaching the command can assist in capturing commands accurately.

**Step 7** - To edit other Function Keys for the same Master Key Page. Repeat steps 4, 5, and 6 until all IR commands have been edited.

**Step 8** - Press the PROGRAM button to select a different Master Key Page.
The KEY LED turns off, and the Page LED blinks RED.

**Step 9** - Repeat steps 3 through 7 until all the necessary IR commands have been edited.

**Step 10** - Press Next to Edit Master Key Sequences. The (POWER)/MASTER KEY SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED

or

**Step 11** - Press PROGRAM again to save and exit programming.

# PROGRAM-EDITING STEPS

**EDIT MASTER KEY SEQUENCE PROGRAMMING**

**Step 1** - Press and hold the PROGRAM button.

**Step 2** - Press the NEXT button three times.
The (POWER)/MASTER KEY SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED

**Step 3** - Press the Master Key to edit.

The TRIGGER LED turns off, and the PAGE LED continues to blink RED.

**Step 4** - Press the Master Key that identifies the Master Key Page where the IR command is stored for the first step in the Master Key Sequence you are editing.

or

Tap the OFF Key if the IR command is in the Default Page.

or

Press and hold the OFF key if the IR command is in the Library Page.

The PAGE LED turns off, and the KEY LED blinks RED.

**Step 5** - Press the function key where the IR command is stored.

The KEY LED turns off, and the PAGE LED blinks RED.

**Step 6** - You can now identify the Master-Key Page where the IR command is stored for the second step in the Master Key Sequence you are editing.

**Note:** If the sequence includes a DELAY:

i. Press the DELAY button (instead of a function key) while the PAGE LED is blinking RED. The PAGE LED turns off, and the KEY LED blinks RED.

The first four keys on the Master-Key Module illuminate.

ii. Choose the Master Key for the desired delay time. Refer to the table below:

**DELAY TABLE**

| KEY | DELAY TIME |
|---|---|
| **Master Key 1** | .5 seconds |
| **Master Key 2** | 1 seconds |
| **Master Key 3** | 4 seconds |
| **Master Key 4** | 8 seconds |

After you choose a delay, all Master Keys turn off. The KEY LED turns OFF, and the PAGE LED blinks RED.

iii. Press the DELAY button again and repeat the previous step to add another delay. (For example, you can have two consecutive one-second delays.)

or

Continue with your editing.

**Step 7** - Repeat steps 4 – 6 until you have re-entered all the steps for the Master Key Sequence you are editing.

**Step 8** - Press the PROGRAM key to edit the Master Key Sequence for a different Master Key.

The TRIGGER LED turns on RED, and the PAGE LED continues to blink RED.

**Step 9** - Repeat steps 3 through 8 until all Master Key Sequences have been edited.

**Step 10** - Press NEXT to edit Zone and System ON/OFF sequences. The (INPUT)/ZONE-SYS SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED. The LED for Zone 1 blinks GREEN, indicating that Zone 1 is selected by default.

or

**Step 10** - Press PROGRAM to save and exit programming.

## EDIT PROGRAMMING FOR ZONE AND SYSTEM ON/OFF SEQUENCE

**Step 1** - Press and hold the PROGRAM button

**Step 2** - Press the NEXT button four times.
The (INPUT)/ZONE-SYS SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED. The LED for Zone 1 blinks GREEN, indicating that Zone 1 is selected by default.

**Step 3** - To edit a sequence for a zone other than Zone 1, press the Zone Select button until the LED for the desired Zone blinks GREEN. All other LEDs should be off.

or

To edit a system sequence, press the Zone Select button six times until all LEDs are blinking.

**Step 4** - Press the ZONE ON button to edit the desired Zone/System On Sequence.

The INPUT 1 LED turns on.

or

Press the ZONE OFF button to edit the desired Zone/System OFF.

The INPUT 4 LED turns on.

The selected zone's LED stops blinking and turns on solid GREEN. The TRIGGER LED turns off and the PAGE LED blinks RED.

**Step 5** - Press the Master Key that identifies the Master Key Page where the IR command is stored for the first step in the Zone/System Sequence you are editing.

or

# PROGRAM-EDITING STEPS

Press the OFF Key if the IR command is stored in a Function Key within the Default Page. Master Keys 1 and 3 illuminate, indicating you are selected to the Default Page.

or

Press and hold the OFF Key if the IR command is stored in a Function Key within the Library Page. Master Keys 1, 3, and 4 illuminate, simulating an "L." This indicates that you are selected to the Library Page.

The PAGE LED turns off and the KEY LED blinks RED.

**Step 6** - Press the Function Key where the IR command is stored.

The KEY LED turns off, and the PAGE LED blinks RED.

You now identify the Master-Key Page where the IR command is stored for the second step in the Zone Sequence you are editing.

**Note:** To incorporate a DELAY into the Sequence:

i. Press the DELAY button (instead of a Function Key) while the PAGE LED is blinking RED. The PAGE LED turns off, and the KEY LED blinks RED.

The first four keys on the Master-Key Module illuminate.

ii. Choose the Master Key for the desired delay time. Refer to the table below:

## DELAY TABLE

| KEY | DELAY TIME |
|---|---|
| **Master Key 1** | .5 seconds |
| **Master Key 2** | 1 seconds |
| **Master Key 3** | 4 seconds |
| **Master Key 4** | 8 seconds |

For example, if you press Master Key 2, a one-second delay is added to the sequence.

After you choose a delay, all Master Keys turn off. The KEY LED turns OFF, and the PAGE LED blinks RED.

iii. Press the DELAY button again, and repeat the previous step to add another delay (for example, you can have two consecutive one-second delays).

or

Continue with your editing.

**Step 7** - Repeat step 5 and step 6 until you have entered the entire Zone/System Sequence.

**Step 8** - Press the PROGRAM key.

The ZONE 1 LED blinks GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED.

You can now edit the On/Off Sequence for a different zone.

**Step 9** - Repeat steps 3 through 8 until all Zone/System Sequences have been edited. **Note:** If you missed IR commands in a sequence, re-do the whole sequence.

**Step 10** - Press Next to edit Function-Key Sequences. The (FUNCTION KEY IR)/FUNCT. KEY SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED.

or

**Step 11** - Press PROGRAM again to save and exit programming.

## EDIT FUNCTION KEY SEQUENCE PROGRAMMING

**Step 1** - Press and hold the PROGRAM button

**Step 2** - Press the NEXT button five times.
The (FUNCTION KEY IR)/FUNCT. KEY SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED.

**Step 3** - Press the Master Key for the page where the Function Key to edit is located.

or

To edit a sequence to a Function Key located within the Default Page, tap the OFF Key. Master Keys 1 and 3 illuminate, indicating you are selected to the Default Page.

or

To edit a sequence to a Function Key located within the Library Page, press and hold the OFF Key. Master Keys 1, 3, and 4 illuminate, simulating an "L." This indicates that you are selected to the Library Page.

The TRIGGER LED remains on, the PAGE LED turns off, and the KEY LED blinks RED.

**Step 4** - Press the Function Key to edit.

The TRIGGER LED turns off, the PAGE LED blinks RED, and the KEY LED turns off.

**Step 5** - Press the Master Key that identifies the Master Key Page (or tap the OFF Key for the Default Page, or press and hold the OFF Key for the Library Page) where the IR command is stored for the first step in the Zone Sequence you are editing.

The PAGE LED turns off, and the KEY LED blinks RED.

**Step 6** - Press the Function Key where the IR command is stored.

The KEY LED turns off, and the PAGE LED blinks RED.

**Note:** To incorporate a DELAY into the sequence:

i. Press the DELAY button (instead of a Function Key) while the PAGE LED is blinking RED. The PAGE LED turns off, and the KEY LED blinks RED.

The first four keys on the Master-Key Module illuminate.

ii. Choose the Master Key for the desired delay time. Refer to the table below:

### DELAY TABLE

| KEY | DELAY TIME |
|---|---|
| Master Key 1 | .5 seconds |
| Master Key 2 | 1 seconds |
| Master Key 3 | 4 seconds |
| Master Key 4 | 8 seconds |

For example, if you press Master Key 2, a one-second delay is added to the sequence.

After you choose a delay, all Master Keys turn off. The KEY LED turns OFF, and the PAGE LED blinks RED.

iii. Press the DELAY button again and repeat the previous step to add another delay. (For example, you can have two consecutive one-second delays.)
or
Continue with your editing.

**Step 7** - Repeat Step 4, 5, and 6 until you have entered all the steps for the sequence.

**Step 8** - Press the PROGRAM button.

The TRIGGER LED turns on RED, the PAGE LED turns off, and the KEY LED blinks RED.

This enables you to edit a Sequence for a different Function Key within the same Master-Key Page.

**Step 9** - Press the PROGRAM button again to edit sequences within other Master-Key Pages.

The TRIGGER LED turns on RED, and the PAGE LED blinks RED.

**Step 10** - Repeat steps 3 through 9 until you have edited all the necessary Function-Key Sequences.

**Step 11** - Press the PROGRAM button to save and exit programming.

**Note:** If you missed IR commands in a sequence, re-do the programming for the whole sequence.

## PROGRAM ERASING
Individual IR commands can be erased at the time you are programming them. See the steps for each event for specific information on how to test IR commands and erase them at that time whenever necessary.

The information in this section describes how to erase programming after it has been saved.

## STEPS TO ERASE ALL PROGRAMMING

**Step 1** - Press the PROGRAM button to enter programming mode. The Power LED turns on.

**Step 2** - Press and hold the ERASE button. All LEDs will begin to blink slowly. (The group of three on the left will be green; the group of four on the right will be red.)

Continue to press and hold the ERASE button and all LEDs will begin to rapidly blink red. Continuing to hold the ERASE button now causes all LEDs to turn off, indicating successful erasure.

**Important:** If the buttons are released at any time while the LEDs are blinking, erasure will be aborted.

# PROGRAM-EDITING STEPS

**STEPS TO ERASE SOURCE-COMPONENT POWER**

To erase source-component power commands, follow the same steps as if you were going to store the power command up to when you would press the remote to enter the command. Press PROGRAM to exit. The power command is erased automatically.

**Step 1** - Press and hold the PROGRAM key to enter Program Mode.  The POWER/(MASTER KEY SEQ) LED turns on RED, and the PAGE LED blinks RED.

**Step 2** - Press the Master Key where you wish to erase source IR commands.  The PAGE LED turns off, and the ENTER IR LED turns on GREEN.

**Step 3** - Press PROGRAM to back out and erase another source power command. The POWER/(MASTER KEY SEQ) LED turns on RED, and the PAGE LED blinks RED.  Repeat from step 2 to erase the other power command.

or

Press PROGRAM twice to exit

**STEPS TO ERASE FUNCTION-KEY IR PROGRAMMING**

To erase individual IR commands in any of the pages, follow the same steps as if you were going to store the command up to when you would press the key to be programmed.  Once pressed, any command stored for that key is erased.

**Step 1** - Press and hold the PROGRAM key to enter Program Mode.  The POWER/(MASTER KEY SEQ) LED turns on RED, and the PAGE LED blinks RED. Then press the NEXT button twice. The FUNCTION KEY IR/(SEQ.) LED turns on RED, and the PAGE LED blinks, RED.

**Step 2** - Press the appropriate Master Key, tap the OFF Key, or press and hold the OFF key on the  Master Keypad to identify the page where the command is stored. (For more information see Master-Key Pages.)

The PAGE LED turns off, and the KEY LED blinks RED.

**Step 3** - Press the Function Key where the command is stored.

The KEY LED turns off, and the ENTER IR LED turns on RED.

**Step 4** - Press the PROGRAM button. The IR command is automatically erased.

The ENTER IR LED turns off. The KEY LED blinks RED.

You can continue deleting commands from that page.

Repeat steps 3 and 4 until all IR commands have been erased.
or
With the KEY LED blinking RED, press the PROGRAM button.

The KEY LED turns off, and the Page LED blinks RED.

**Step 5** - You can continue erasing IR commands from other pages. Repeat steps 2 through 4 until all the necessary IR commands have been erased.

**Step 6** - Press PROGRAM twice to exit.

# PROGRAM-EDITING STEPS

## STEPS TO ERASE MASTER-KEY SEQUENCES

To erase Master-Key Sequences, follow the same steps as if you were going to build the sequences, up to when you identify the page and key address where the individual commands are stored. Instead, press the PRO-GRAM key to erase the sequence and exit.

**Step 1** - Press the PROGRAM button once, then the NEXT button three times. The (POWER)/MASTER KEY SEQ LED turns on GREEN.

**Step 2** - Press a Master Key or press the OFF Key.

The TRIGGER LED turns off, and the PAGE LED continues to blink RED.

**Step 3** - Press the PROGRAM button. The TRIGGER LED turns on RED, and the PAGE LED blinks RED. At this point, the Master-Key Sequence is automatically erased.

**Step 4** - Repeat step 2 and step 3 to erase other Master-Key Sequences.

or

Press the PROGRAM button again to exit.

## STEPS TO ERASE ZONE AND SYSTEM ON/OFF SEQUENCES

To erase Zone and System ON/OFF sequences, follow the same steps as if you were going to build the sequences, up to when you identify the page and key address where the individual commands are stored. Instead, press the PROGRAM key to erase the sequence and exit.

**Step 1** - Press the PROGRAM button once, then the NEXT button four times. The (INPUT)/ZONE SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED.

**Step 2** - The Zone 1 LED blinks, to indicate that Zone 1 is selected by default. The LEDs for the remaining zones are off. To erase a Zone Sequence for a zone other than Zone 1, press the Zone Select button until the LED for the desired zone/system blinks GREEN.

**Step 3** - Press the ZONE ON button to erase the Zone/System On Sequence for that zone. The INPUT 1 LED turns on.

or

Press the ZONE OFF button to erase the Zone/System Off Sequence for that zone. The INPUT 4 LED turns on.

The selected zone's LED stops blinking and turns on solid GREEN. The TRIGGER LED turns off and the PAGE LED blinks RED.

**Step 4** - Press the PROGRAM button. The TRIGGER LED turns on RED, and the PAGE LED blinks RED. At this point the Zone/System Sequence is erased.

**Step 5** - Repeat steps 2 through 4 to erase other Zone and System On/Off sequences for the same zone or for different zones

or

Press PROGRAM again to exit.

# PROGRAM-EDITING STEPS

## STEPS TO ERASE FUNCTION-KEY SEQUENCES

To erase sequences, follow the same steps as if you were going to store the commands, up to when you identify the page and key address where the individual commands are stored. Instead, press the PROGRAM key to erase the sequence and exit.

**Step 1** - Press the PROGRAM button once, then the NEXT button five times. The (FUNCTION KEY IR)/SEQ LED turns on GREEN, the TRIGGER LED turns on RED, and the PAGE LED blinks RED.

**Step 2** - Press a Master-Key to identify the Master-Key Page where the Function Key that triggers the sequence is located. To erase a sequence located on the Default Page, press the OFF Key.

The TRIGGER LED remains on, the PAGE LED turns off, and the KEY LED blinks RED.

**Step 3** - Press the actual Function Key that triggers the sequence.

The TRIGGER LED turns off, the PAGE LED blinks RED, and the KEY LED turns off. The sequence that was previously built is automatically erased at this point.

**Step 4** - Press the PROGRAM button. The KEY LED blinks RED.

**Step 5** - To erase other Function Keys within the same page, repeat steps 2 and 3.

**Step 6** - Press PROGRAM twice to erase Function-Key Sequences in other Master-Key Pages. Repeat steps 2 through 5.

or

Press PROGRAM three times to exit. Press the PROGRAM button to exit.

## TRANSFERRING IR CONFIGURATION PROGRAMS BETWEEN A4.6CI's

An A4.6Ci that is programmed with an IR configuration may have its program contents transferred to a second A4.6Ci.

**Step 1.** Connect one end of a DB-9 null modem cable (pins 2 and 3 reversed and pin 5 to 5) to the A4.6Ci that contains the configuration you wish to transfer. (Refer to this A4.6Ci as the "output unit".)

**Step 2.** Connect the other end of that DB-9 null modem cable to the A4.6Ci to which you wish to transfer the configuration. (Refer to this A4.6Ci as the "input unit".)

**Step 3.** Press and hold the TRANSFER button on the output unit for two seconds.

The Page LED and the Key LED blink RED in tandem to indicate you are initiating a transfer-mode session. To cancel the session and return to normal-operation mode, press the TRANSFER button again.

**Step 4.** Press and hold the OUT button on the output unit for two seconds.

The Page LED and the Key LED stop blinking and turn solid RED to indicate the transfer has begun. The "INPUT ASSIGN/ZONE-SYS. SEQ." LED and the "FUNCT. KEY IR/FUNCT. KEY SEQ." LED blinks GREEN.

The input unit illuminates the PAGE LED and the KEY LED solid RED and the "INPUT ASSIGN/ZONE-SYS. SEQ." LED and the "FUNCT. KEY IR/FUNCT. KEY SEQ." LED blink RED to indicate a transfer has begun.

**Step 5.** ALL LEDs, except the POWER LED on the programming panel for both A4.6Ci's, turn OFF when the transfer is complete and both A4.6Ci's are put back into normal-operation mode.

**Important Note:** You can also transfer a configuration by driving the input unit. Follow the same steps described above for the output unit, except instead of pressing the OUT button, press the IN button.

# IntelliPad® Ci Keypads and Remote Control

## Solo™ Master Keypad Module

**STOCK #**
**FG00807**

- Backlit Master Keys enable monitoring and control of up to four audio sources or other remote controllable devices (see Niles MultiZone Control System for details). All keypad buttons are programmable and capable of automating multiple commands with the single touch of a button. Custom label your master keys to match your system or favorite preset—over 200 labels included.
- Function Keys operate the selected audio component and change identity when a new component is selected. Use them to search for a specific track on a specific CD or change the radio station.
- The Niles MultiZone Control System monitors the status of your components and automatically shuts down your entire system with the single touch of a button from the IntelliPad® Ci keypad.

## Select™ Master Keypad Module

**STOCK #**
**FG00808**

- Backlit Master Keys enable monitoring and control of up to four audio/video sources or other remote control-lable devices (such as lighting and drapes). Additionally, all keypad buttons are programmable and capable of automating multiple commands with the single touch of a button so you can create custom presets or "scenes." Custom label your master keys to match your system or favorite preset—over 200 labels included.
- The Niles MultiZone Control System monitors the status of your components and automatically shuts down your entire system with the single touch of a button from the IntelliPad® Ci keypad.

## Numeric™ Accessory Keypad Module

**STOCK #**
**FG00809**
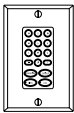
- The Intellipad® Ci Numeric Accessory Keypad operates the selected audio/video component and changes identity when a new component is selected.
- Numeric Keys enable simple, direct system access. Select a specific CD number, track number, radio station, or DSS channel. Each key can be programmed for desired operation.
- Random, Disc, and Group Keys control key functions of CD changers and DVD players.
- Favorite Key enables you to choose your favorite DSS channels with direct and easy access.

## Transport™ Accessory Keypad Module

**STOCK #**
**FG00810**

- The IntelliPad® Ci Transport Accessory Keypad operates the selected audio/video component and changes identity when a new component is selected.
- Play, Stop, Pause, Rewind, and Fast Forward control key functions of components such as CD changers and DVD players.
- Function Keys enable simple, direct system access. Use them to search for a specific track on a specific CD or change the radio station.

## Silencer™ Keypad Volume Control

| Color | Stock# |
|-------|--------|
| Almond | FG00774 |
| Bone | FG00776 |
| White | FG00773 |

- The Silencer combines with IntelliPad® Ci Master Keypads and a Niles MultiZone Control System to provide automatic muting and independent volume control of speakers. Automatic muting ensures that family members won't be disturbed when their zone is activated from a different room within the same zone.
- 12-position control enables the broadest range of volume adjustment available. You can set and maintain the ideal volume level for each room in which a Silencer is located.

## R-4 Accessory Remote

**STOCK #**
**FG00895**

- Source buttons provide automated system activation and source selection.
- Numeric Keys enable simple, direct system access. Select a specific CD number, track number, radio station, or DSS channel. Each key can be programmed for desired operation.
- Play, Stop, Pause, Rewind, and Fast Forward control key functions of components such as CD changers and DVD players.
- Function Keys enable simple, direct system access. Use them to search for a specific track on a specific CD or change the radio station.

## IntelliPad® Ci Master Keypad Labels

**STOCK #**
**LA00978A**

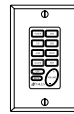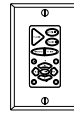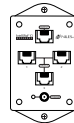- Additional Master Keypad identification labels to customize a Solo™ Master Keypad Module.
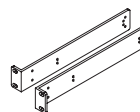
## Expander™ Master Keypad Connection Accessory

**STOCK #**
**FG00853**

- Expands a single keypad input on a Niles MultiZone Control System to connect three Master Keypads (up to five Master Keypads can be connected using two expanders.
- LED indicator monitors power status.
- Convenient mounting wings for easy installation.
- Includes 16V DC power supply with inline transformer.

## Zone/Room Labels

**STOCK #**
**LA01021A**

- Zone/Room identification labels to place in the label slots for each zone of the ZR-4630.
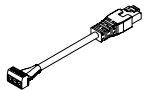
## Rack Mount Kit

**STOCK #**
**FG00850**

- Universal deep chassis brackets.
- One rack space high (1-3/4").
- Six Phillips 6-32 x 1/2" screws.
- Six locking washers.

# A4.6Ci SYSTEM ACCESSORIES

## IR Sensors and IR Flashers

### IntelliPad® Ci Adapter Cable

STOCK #
FG00852

- Allows for easy connection of Niles IR Sensors (that have been installed with two-conductor shielded cable) to IntelliPad® Ci Master Keypad Modules.
- Utilizes a three-position set-screw connector on one end for connection of a two-conductor shielded cable. Utilizes a high-quality male RJ-45 connector on the other end that quickly connects to an IntelliPad® Ci Master Keypad Module.

### TIR1+ IR Sensor

STOCK #
FG00649
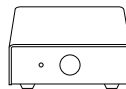
- Includes Niles' award-winning power-status display technology. Its bi-color LED tells you if your remotely located A/V system is On.
- Bi-color flashback LED confirms the reception of an IR command or possible IR interference.
- Sensor pick-up range: 25-30'
- Small size enables you to locate unit anywhere.
- Removable connector simplifies installation.
- Dimensions: 3-1/8" wide x 1-5/16" high x 2-7/8" deep.
- Approximate shipping weight: 1 lb.
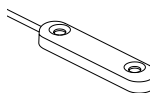
### MS-1 IR MicroSensor™

STOCK #
FG00518

- Flashback LED confirms the reception of an IR command or possible IR interference.
- Sensor pick-up range: 25-30'
- Miniature size makes it virtually invisible.
- Circuit board's Surface-Mount Technology (SMT) assures high reliability.
- Includes a 6' hook-up wire.
- Overall dimensions: 3/4" dia. x 2-3/8" deep.
- Bezel dimensions: 3/4" dia. x 1/4" deep.
- Approximate shipping weight: 1 lb.

### MS-2 IR MicroSensor™

| Color | Stock# |
|-------|--------|
| White | FG00627 |
| Black | FG00614 |

- Flashback LED confirms the reception of an IR command or possible IR interference.
- Sensor pick-up range: 25-30 ft.
- Miniature size makes it virtually invisible.
- Adhesive backing for quick and easy mounting.
- Circuit board's Surface-Mount Technology (SMT) assures high reliability.
- Includes a 6' hook-up wire.
- Dimensions: 2" wide x 1/2" high x 1/4" deep.
- Approximate shipping weight: 1 lb.

### MS-360 Omni-Directional Ceiling-Mount IR Sensor

STOCK #
FG00765

- 1-1/2" frosted dome covers sensing diodes.
- Sensor pick-up 360°, range: 28-45'
- Optical filters for full sunlight and half sunlight.
- All under-dome parts pre-painted white.
- Improved shielding for electromagnetic and RF interference.
- Mounts in a 1/2" hole with two self-drilling screws.
- Overall dimensions: 1-1/2" diameter x 3-5/8" deep.
- Lens dimensions: 1-1/2" diameter x 1/4" deep.
- Approximate shipping weight: 1 lb.

### IRR4D+ Wall-Mount IR Sensor

| Color | Stock# |
|-------|--------|
| Almond | FG00640 |
| Bone | FG00642 |
| White | FG00643 |
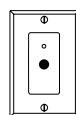
- Bi-color LED tells if remotely located A/V system is on.
- Bi-color flashback LED confirms the reception of an IR command or possible IR interference.
- Sensor pick-up range: 25-30'
- Removable Decora-style insert for easy color changes.
- Requires 1-gang P-ring or electrical box at least 2-3/4" deep.
- Dimensions: 2-3/4" wide x 4-1/2" high (includes faceplate), depth behind plate: 2-5/8".
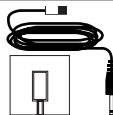- Approximate shipping weight: 1 lb.

### IRC-1P FloodFlasher™

STOCK #
FG00932
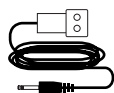
- High-output IR flasher capable of controlling an entire rack of equipment. Connects with a 3.5mm mono mini-plug; 10' cable.

### IRC-2P MicroFlasher™

STOCK #
FG00726

- Transparent to infrared light.
- IRC-2P required for each component you wish to control.
- Includes IR blocking cover for IR routing/zoning applications.
- Miniature size for discrete placement.
- Adhesive-backing for quick and easy placement.
- Includes 10' of wire with 3.5mm mono mini-plug.
- Dimensions: 5/16" wide x 11/16" high x 3/16"deep.
- Approximate shipping weight: 1 lb.

# A4.6Ci SYSTEM ACCESSORIES

## Sync Accessories

Many of the components in your system should have their power status "synced" to the A4.6Ci. The following accessories either sense that a component is on/off or actually turn the component(s) on/off.

### LS-1 Light Sensor

**STOCK #**
**FG00728**

Senses the brightness of a component's front-panel display and outputs a 12V DC sync signal when the display is brightest.

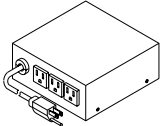### IPC-6 Programmable AC Power Controller

**STOCK #**
**FG00272**

Six-outlet microprocessor controlled power management system with on/off sequencing.

*Rack-mount panel available. Stock# FG00669

### APC-2 Current-Sensing Outlet Switcher

**STOCK #**
**FG00254**

Current sensing outlet. Provides 12V DC sync connection via an accessory cable to the IntelliControl®.

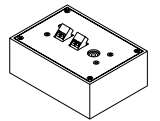### 10' Bare Wire to Mini-Plug Accessory Cable

**STOCK #**
**FG00724**

• 10' bare wire to 3.5mm mono mini-cable.
• Used to send sync signals to the 12V sync inputs of the IntelliControl®. Connects with a 3.5mm mono mini-plug to 3.5mm.

### OTI-512 Opto-Isolated Voltage Trigger

**STOCK #**
**FG00319**

Converts any voltage between 3V and 30V (AC or DC) to 12V DC sync. Useful in combination with an accessory cable with Proceed™, Fosgate™, Citation™, and Synthesis™ preamps.

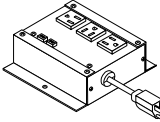### 10' Mini-plug to Mini-Plug Accessory Cable

**STOCK #**
**FG00933**

• 10' 3.5mm mono mini to 3.5mm mono mini-cable.
• Used to send sync signals to the 12V sync inputs of the IntelliControl®. Connects with a 3.5mm mono mini-plug to 3.5mm.

### AC-3 Voltage-Triggered AC Power Strip

**STOCK #**
**FG00242**

AC power strip with two voltage-triggered AC outlets and one unswitched AC Outlet.
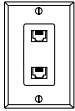
### 12V DC/200mA Wall Adapter

**STOCK #**
**FG00665**

Provides a 12V DC sync signal to the IntelliControl® when plugged into a component's switched outlet.

## Convenience Outlets

### NET-2D Computer Network Convenience Outlets

**ColorStock#**
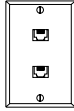
| Color | Stock# |
|---|---|
| Almond | FG00858 |
| Bone | FG00840 |
| White | FG00842 |

Two 8-wire (RJ-45) modular jacks for computer network or IntelliPad™ Ci Master Keypad connections. Decora®-style faceplate.

### NET-2S Computer Network Convenience Outlets

**ColorStock#**

| Color | Stock# |
|---|---|
| Almond | FG00859 |
| Bone | FG00843 |
| White | FG00844 |

Two 8-Wire (RJ-45) modular jacks for computer network or IntelliPad Ci Master Keypad connections. Standard-style faceplate.

**Special Note:** RJ-45 jacks and the faceplates that make up the network-convenience outlets are available separately in our Jobsite® System.

## Audio/Video Distribution

### AVDA-3 Audio/Video Distribution Amplifier
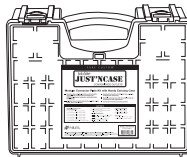
**STOCK #**
**FG00814**
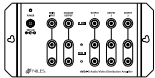
Source-level audio and base-band video distribution amplifier. Includes a stereo audio and video input, distributed to three audio/video outputs.

## JUST'N CASE™ Kit

### Modular Connector Plate Kit with Handy Carrying Case

**STOCK #**
**FG00872**

- The complete one-box solution for all your convenience outlet needs, this connector-plate management kit is complete with assorted Decora-style insert modules to accommodate any wall plate configuration necessary for DSS/TV, telephone, computer, and audio/video installations. Unassembled and with interchangeable parts, it enables you to build exactly what you need—on the job site!

# TROUBLESHOOTING

## TROUBLESHOOTING THE A4.6CI

| Problem | Troubleshooting |
|---|---|
| The A4.4Ci has no lights on. | Inspect the DC power adapter. Be sure it is inserted firmly into the power-cord socket of the A4.6Ci.<br><br>Check the AC power outlet. Verify that the outlet is providing power (i.e., a switched AC outlet).You want to make sure that the A4.6Ci is always plugged into an un-switched AC outlet.<br><br>If you've checked the cord and the outlet and you still have no lights, call Niles for service. |

## SYSTEM INSTALLATION TROUBLESHOOTING

| Problem | Troubleshooting |
|---|---|
| The keypad is connected, but no lights come on. | Test the keypad cable with an appropriate cable tester. |
| There is no IR control of the source components. | The sensors may be receiving some interference. Check the Status LED.<br><br>When using the Niles IRR-4D+ Wall Mount or the Niles TIR-1+ Tabletop IR sensors, the Status LED should be illuminating GREEN when the zone is on. The Status LED should be off when the zone is off, and RED when receiving a command.<br><br>When using the Niles MS-1 or MS-2 IR sensors, the Status LED should be off when the zone is ON. It should only illuminate GREEN when receiving an actual IR command.<br><br>If the LEDs stay constantly RED (or GREEN when using MS-1 or MS-2), that is a sign of interference. Identify the source of interference and remove it, or move the sensor to a place where it doesn't have interference. Sources of interference may include dimmer switches, fan-motor switches, televisions (especially plasma televisions), and sunlight. |
| Some commands work for a source and some don't. | You may have captured some commands incorrectly. Testing all IR commands with the IR test feature as you capture them will avoid this. |

## A4.6Ci MultiZone Audio Preamplifier

Frequency Response:    12 Hz - 230 KHz, 3 dB, at 1Vrms output
Paging = -3dB > 200Hz - 4 KHz

Distortion:    <0.005% THD, 1 KHz

Maximum Output:    6 Vrms before clipping

Overall Voltage Gain:    27 db

Maximum Input Level:    1 Vrms

Signal-to-Noise Ratio:    >90 db at 1Vrms output

Crosstalk:    >90 db at 1Vrms (between zones & channels)

Input Impedance:    10k ohms
paging =100k ohms

Input Sensitivity:    330 mv input for 1V out (with zero db control gain)
paging =10 mv input for 1V out

Maximum Hum:    >90 db

Channel Balance:    20 hz -20 khz +/- 0.5 db

Tone Control Range:    +/-14 db 100 hz
+/-14 db 15 khz

Power Requirements:    16V DC, 1.5a

Net Weight (w/xf):    10.65 lbs

Dimensions:    17" wide x 1.3/4" high x 12" deep

**Niles Audio Corporation**
12331 S.W. 130 Street, Miami, FL 33186
Mailing Address: P.O. Box 160818 Miami, FL 33116
Customer Service: 1-800-BUY-HIFI (1-800-289-4434)
Phone: 305-238-4373 • Fax: 305-238-0185
Visit us on the web at **www.nilesaudio.com**

# SPECIFICATIONS

## A4.6Ci MultiZone Audio Preamplifier

Frequency Response:     12Hz - 150kHz, -3dB, at 1Vrms output

Distortion:     <0.005% THD, 1kHz

Maximum Output:     6Vrms before clipping

Overall Voltage Gain:     27dB

Maximum Input Level:     1Vrms

Signal-to-Noise Ratio:     >90dB at 1Vrms output

Crosstalk:     >90dB at 1Vrms (between zones & channels)

Input Impedance:     10k ohms
paging = 30k ohms

Input Sensitivity:     330mV input for 1V output (with zero dB control gain)
paging = 550mV input for 1V output

Maximum Hum:     >90dB

Channel Balance:     20Hz - 20kHz +/- 0.5dB

Tone Control Range:     +/-14dB 100Hz
+/-14dB 15kHz

Power Requirements:     16V DC, 1.5A

Net Weight (w/xf):     10.65 lbs

Dimensions:     17" wide x 1-3/4" high x 12" deep